

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



U.S. Department of Agriculture

FOR OFFICIAL USE ONLY

Material prepared for use at Appropriation's Committee hearings must not be made public prior to release of printed Committee hearings.

1977 BUDGET EXPLANATORY NOTES

\$8,000,000

Office of the Secretary
Departmental Administration
Office of the Inspector General
~~Office of the~~ General Counsel

Agricultural Research Service
Animal and Plant Health Inspection Service
Cooperative State Research Service
Extension Service
National Agricultural Library

Economic Management Support Center
Statistical Reporting Service
Economic Research Service
Farmer Cooperative Service

PREFACE

Project Statements

The obligations shown in the Project Statements are based on the appropriations and activities proposed in the 1977 budget estimates. In some Project Statements the activities are further divided into subcategories, reflecting a more detailed description of the work conducted under the appropriation items.

In those accounts where prior year balances are also available for obligation during the year, such amounts are shown in a separate Project Statement.

The amounts shown in Project Statements for the past year are taken directly from the accounting records to the maximum extent possible.

Statement of Available Funds and Man-Years

A statement is included for each agency, immediately following the introductory purpose statement, to reflect all sources of funds available to the agency and to show the related man-years from each source of funds.

These statements reflect the best available information at the time these Explanatory Notes were prepared (January 1976). However, it is not possible in many instances to determine in advance the extent to which agencies may be requested to perform additional services for other Federal and non-Federal agencies or organizations. Therefore, amounts of actual reimbursements and other funds received from sources other than appropriations directly to the agency may vary from those shown in the statements.

In those cases where the funds are not appropriated (reimbursements, trust funds, transfers, revolving funds, etc.), the dollar amounts shown represent actual or estimated obligations for the year.

In some instances there may be duplication of amounts shown. This results largely from cases involving reimbursements between different agencies within the Department, and where amounts are paid from appropriations to the Working Capital Funds. There is no duplication of the man-years shown.

Fiscal Year 1977 Space Costs

In accordance with the requirements of the Public Buildings Amendments Act of 1972 (Public Law 92-313) Federal agencies are required to make payments to the General Services Administration for all GSA-controlled space which they occupy. The fiscal year 1976 Appropriations Act for the Department included an average 13 percent reduction in the Budget Estimates for these payments in 1976 and a provision limiting the payment to General Services Administration to 90 percent of the rental charge. The FY 1977 Budget Estimate for space is based on a GSA billing which reflects a revised rate structure for 1977 and includes full funding for rental payments in the Budget year.

The Explanatory Notes identify GSA space costs requiring Appropriations Act funding within the justification for each account. The following table summarizes these space costs and financing for fiscal year 1975 through 1977.

General Services Administration Space Rental

	FY 1975		FY 1976		FY 1977	
			Estimate		Estimate	
	Forest Service	Other USDA	Forest Service	Other USDA	Forest Service	Other USDA
<u>Estimated Costs:</u>	----- (Dollars in Thousands) -----					
USDA direct and indirect payments to GSA (based on current billings) for base space	\$14,191	\$35,779	\$13,872	\$38,482	\$14,430	\$42,188
<u>Financing:</u>						
Direct Appropriation ...	13,476	31,174	13,213	32,781	13,771	36,968
Corporate funds	- -	2,417	- -	2,493	- -	2,396
Trust funds and reimbursements	715	2,188	659	3,208	659	2,824
Total	<u>14,191</u>	<u>35,779</u>	<u>13,872</u>	<u>38,482</u>	<u>14,430</u>	<u>42,188</u>

Pay Costs in the 1977 Budget

The 1976 and 1977 columns of the 1977 Budget reflect civilian pay raises which were provided by Executive Order 11883. In addition, actual and estimated 1976 wage board increases are shown in the budget.

Executive Order 11883, effective the first pay period in October, 1975, provided an increase of approximately 5 percent for all General Schedule and related Federal employees. Wage board costs are based upon prevailing private wage rates in a given area and are adjusted periodically by law. The 1976 column of the 1977 Budget contains estimated wage board increases through June 30, 1976, and the transition.

These justifications include 1976 pay costs and pay costs supplementals as adjustments to the 1976 appropriations in determining the base amounts for the 1977 changes. In this manner, these mandatory 1976 costs are not brought into the discussion of the 1977 increases. However, the 1976 supplemental covers costs for only the nine months from October, 1975 to June 30, 1976 and the transition. Funds needed to pay the full year costs in 1977 are included in the 1977 increases as annualization of the October raise. The following table reflects the total cost of the raises for 1976, the amount absorbed in 1976, the 1976 supplemental request submitted with the Budget, and the annualization of the October pay raise. The individual schedules reflect the amounts for each account.

	USDA (Excluding Forest Service)	Forest Service	Total
	(Dollars in Thousands)		
<u>1976 Increased Costs:</u>			
Executive Order 11883	\$45,692	\$15,698	\$61,390
Wage Board	1,889	2,718	4,607
Total, 1976 Costs	<u>47,581</u>	<u>18,416</u>	<u>65,997</u>
<u>Financing:</u>			
Amounts absorbed by administrative action	-27,248	-18,416	-45,664
Amounts absorbed by transfers between accounts and increases in limitations requiring Congressional action	-759	- -	-759
1976 Supplemental for pay costs	<u>19,574</u>	<u>- -</u>	<u>19,574</u>
<u>1977 Increased Costs:</u>			
Direct appropriation	33,935	20,953	54,888
Increase in administrative expense limitations	(198)	- -	(198)
Total, 1977 Increase for pay costs	<u>(34,133)</u>	<u>(20,953)</u>	<u>(55,086)</u>

C O N T E N T S
(Volume 1)

	<u>Page</u>
<u>OFFICE OF THE SECRETARY:</u>	
Purpose Statement	1
Statement of Available Funds and Man-Years	2
Office of the Secretary	3
Passenger Motor Vehicles	9
<u>DEPARTMENTAL ADMINISTRATION:</u>	
Purpose Statement	10
Statement of Available Funds and Man-Years	11
Departmental Administration	13
Working Capital Fund, Department of Agriculture	42
<u>OFFICE OF THE INSPECTOR GENERAL:</u>	
Purpose Statement	46
Statement of Available Funds and Man-Years	47
Office of the Inspector General	48
<u>OFFICE OF THE GENERAL COUNSEL:</u>	
Purpose Statement	65
Statement of Available Funds and Man-Years	66
Office of the General Counsel	67
<u>AGRICULTURAL RESEARCH SERVICE:</u>	
Purpose Statement	86
Statement of Available Funds and Man-Years	87
Agricultural Research Service	89
Scientific Activities Overseas (Special Foreign Currency Program)	144
Working Capital Fund, Agricultural Research Center	155
Passenger Motor Vehicles and Aircraft	156
<u>ANIMAL AND PLANT HEALTH INSPECTION SERVICE:</u>	
Purpose Statement	157
Statement of Available Funds and Man-Years	158
Animal and Plant Health Inspection Service	159
Animal Quarantine Station	198
Miscellaneous Trust Funds	199
Passenger Motor Vehicles and Aircraft	201
<u>COOPERATIVE STATE RESEARCH SERVICE:</u>	
Purpose Statement	203
Statement of Available Funds and Man-Years	204
Cooperative State Research Service	205
<u>EXTENSION SERVICE:</u>	
Purpose Statement	234
Statement of Available Funds and Man-Years	235
Extension Service	236

C O N T E N T S (Cont'd)
(Volume 1)

	<u>Page</u>
<u>NATIONAL AGRICULTURAL LIBRARY:</u>	
Purpose Statement	267
Statement of Available Funds and Man-Years	268
National Agricultural Library	269
Library Facilities	281
<u>ECONOMIC MANAGEMENT SUPPORT CENTER:</u>	
Purpose Statement	282
Statement of Available Funds and Man-Years	283
Economic Management Support Center	284
<u>STATISTICAL REPORTING SERVICE:</u>	
Purpose Statement	288
Statement of Available Funds and Man-Years	289
Statistical Reporting Service	291
Passenger Motor Vehicles	309
<u>ECONOMIC RESEARCH SERVICE:</u>	
Purpose Statement	310
Statement of Available Funds and Man-Years	311
Economic Research Service	313
Passenger Motor Vehicles	329
<u>FARMER COOPERATIVE SERVICE:</u>	
Purpose Statement	330
Statement of Available Funds and Man-Years	331
Farmer Cooperative Service	332

OFFICE OF THE SECRETARY

Purpose Statement

The Secretary of Agriculture, assisted by the Under Secretary, the Assistant Secretaries, and members of their immediate staffs, directs and coordinates the work of the Department. This includes developing policy, maintaining relationships with agricultural organizations and others in the development of farm programs, and maintaining liaison with the Executive Office of the President and members of Congress on all matters pertaining to agricultural policy.

The administrative law judges hold rule making and adjudicatory hearings and issue initial decisions and orders, and the Judicial Officer serves as final deciding officer in regulatory proceedings.

The general authority of the Secretary to supervise and control the work of the Department is contained in the Organic Act (7 U.S.C. 2201-2202). The delegation of regulatory functions to Department employees and authorization of appropriations to carry out these functions is contained in 7 U.S.C. 450c-450g.

Geographic Location. The Secretary's Office and the offices financed from this appropriation are all located in Washington, D.C.

Available Funds and Man-Years
1975 and Estimated, 1976 and 1977

	Actual 1975	Man- Years	Estimated Available, 1976:	Man- Years	Budget Estimate 1977	Man- Years
	Amount		Amount		Amount	
Office of the Secretary ...	\$1,940,215	44	\$2,205,000 ^{a/}	47	\$2,328,000	47
<u>Obligations under other appropriations:</u>						
For travel and other expenses of administrative law judges in conducting regulatory hearings	15,057	--	20,000	--	20,000	--
Consideration of formal employee grievances and adverse action appeals for agencies of the Department	8,719	--	--	--	--	--
Agricultural Research Service for pesticides information	6,000	--	6,000	--	6,000	--
Board of Contract Appeals	172,419	4	243,000	7	253,000	7
Combined Forest Pest Program Board	156,706	4	196,000	5	198,000	5
USDA Safety Advisory Committee	--	--	12,000	--	12,000	--
Working Capital Fund: Central defense programs	61,685	1	63,900	1	63,900	1
Total, Other USDA Appropriations	420,586	9	540,900	13	552,900	13
Total, Agriculture Appropriations	2,360,801	53	2,745,900	60	2,880,900	60
Other Federal Funds	187,908	4	48,000	--	--	--
Non-Federal Funds	700	--	700	--	700	--
Total, Office of the Secretary	2,549,409	57	2,794,600	60	2,881,600	60
End-of-Year Employment:	1975 Actual		1976 Estimated		1977 Estimated	
Permanent full-time	<u>121</u>		<u>97</u>		<u>97</u>	
Other	<u>5</u>		<u>5</u>		<u>4</u>	
Total	<u>126</u>		<u>102</u>		<u>101</u>	

^{a/} Excludes proposed supplemental of \$41,000.

OFFICE OF THE SECRETARY

Appropriation Act, 1976	\$2,747,000
Budget Estimate, 1977	<u>2,328,000</u>
Decrease in Appropriation	-419,000

Adjustments in 1976:

Appropriation Act, 1976	\$2,747,000	
Activities transferred to the Office of Management and Finance, Office of Audit and the Economic Research Service a/	-574,000	
Activities transferred to the Office of Communication b/	-16,000	
1976 Supplemental Appropriation for pay costs .	<u>+48,000</u>	
Adjusted base for 1977		2,205,000
Budget Estimate, 1977		<u>2,328,000</u>
Increase over adjusted 1976		+123,000

a/ On August 15, 1975, the functions of the Office of Planning and Evaluation were reassigned to the Office of Management and Finance, the Office of Audit, and the Economic Research Service. Actual transfer of funds of \$499,000 was made in 1976. On a comparable basis, the full annual cost of this activity is \$574,000.

b/ On September 2, 1975, functions relating to the publication of "Agriculture Decisions" were transferred from the Judicial Officer to the Office of Communication. Actual transfer of funds of \$10,900 was made in 1976. On a comparable basis, the full annual cost of this activity is \$16,000.

SUMMARY OF INCREASES

(On basis of adjusted appropriation)

	<u>1976</u>	<u>Increases</u>	<u>1977 Estimate</u>
Program and policy direction and coordination:			
For inflationary operating costs ..	\$1,467,866a/	+\$90,000	\$1,557,866
Regulatory hearings and decisions	399,134b/	+1,000	400,134
GSA space rental costs	290,000	+14,000	304,000
Annualization of the pay cost increase effective in FY 1976	<u>48,000</u>	<u>+18,000</u>	<u>66,000</u>
Total available	<u>2,205,000</u>	<u>+123,000</u>	<u>2,328,000</u>

a/ Excludes proposed supplemental of \$40,000

b/ Excludes proposed supplemental of \$1,000.

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1975	1976 (Estimated)	Increases	1977 (Estimated)
1. Program and policy direction and coordination:				
(a) Office of the Secretary and Under Secretary	\$945,269	\$1,117,531 ^{a/}	+\$77,000 (1)	\$1,194,531
(b) Assistant Secretaries	568,448	646,335 ^{b/}	+37,000 (1)	683,335
2. Regulatory hearings and decisions	414,573	441,134 ^{c/}	+9,000 (2)	450,134
Unobligated balance	11,925	- -	- -	- -
Total available or estimate	1,940,215	2,205,000	+123,000	2,328,000
Transfer to OMF, OA and ERS	+557,600	+574,000		
Transfer to COMM	+16,000	+16,000		
Proposed supplemental for pay increase costs	- -	-48,000		
Total, appropriation	2,513,815	2,747,000		

a/ Excludes proposed supplemental of \$23,000.

b/ Excludes proposed supplemental of \$17,000.

c/ Excludes proposed supplemental of \$1,000.

EXPLANATION OF PROGRAM

This appropriation provides funding for the following activities:

Program and Policy Direction and Coordination. This activity includes the Secretary, Under Secretary, Assistant Secretaries and their immediate staffs who provide top policy guidance for the Department.

Regulatory Hearings and Decisions. This activity includes the work of the Administrative Law Judges and of the Judicial Officer. The Administrative Law Judges carry out the provisions of the Administrative Procedure Act relating to the holding of hearings (5 U.S.C. 556). Hearings are held in connection with prescribing of new regulations and orders, and on disciplinary complaints filed by the Department, or on petitions filed by private parties asking relief from some action of the Department.

The Judicial Officer renders final administrative decisions in regulatory proceedings.

The Hearing Clerk Unit, which operates under the Judicial Officer, is responsible for receiving, filing and acknowledging the receipt of complaints, petitions, answers, briefs, arguments, and other documents filed with the Department of Agriculture in connection with quasi-judicial and administrative proceedings under various regulatory laws administered by the Department.

JUSTIFICATION OF INCREASES

- (1) An increase of \$114,000 for Program and Policy Direction and coordination consisting of:

	<u>Secretary and Under Secretary</u>	<u>Assistant Secretaries</u>
(a) <u>Annualization of pay increases effective in FY 1976</u>	\$7,000	\$5,000
(b) <u>Space rental costs pursuant to P.L. 92-313</u>	8,000	4,000
(c) <u>Increased travel costs (Proposed supplemental in FY 1976)</u>	23,000	17,000
(d) <u>Inflationary operating costs</u> .	39,000	11,000

Need for Increase. Expenditures in the Office of the Secretary for essential services such as postage, telecommunications, printing, supplies and materials and other support costs continue to increase substantially each fiscal year. In FY 1976 total operating costs, excluding salaries, benefits and travel, are expected to consume more than 40 percent of total funds currently available. There are no uncommitted funds available in the Office of the Secretary with which to absorb these inflationary costs.

The following is a breakdown of the items for which additional funds are requested:

Postage	4,000
Telecommunications	6,000
Printing and reproduction	4,000
Supplies and materials	16,000
Payments to GSA for utilities and other services not included in SLUC charges .	<u>20,000</u>
Total	<u>50,000</u>

- (2) An increase of \$9,000 for Regulatory Hearings and Decisions consisting of:

- (a) An increase of \$6,000 for annualization of pay increases effective in FY 1976.
- (b) An increase of \$2,000 for space rental costs pursuant to P.L. 92-313.
- (c) An increase of \$1,000 for increased travel costs (Proposed supplemental in FY 1976).

STATUS OF PROGRAM

PROGRAM AND POLICY DIRECTION

The formulation and direction of policy and programs is carried out by the Secretary of Agriculture, the Under Secretary, the Assistant Secretaries, and Directors, staff advisors, and related supporting staff. Under the direction of the Secretary, the Immediate Office of the Secretary exercises broad executive responsibility for the development of national agricultural policies and the general management of the Department of Agriculture within the framework of laws enacted by the Congress and regulations promulgated by the President. It coordinates the activities of the Department's constituent agencies into a unified agricultural program, designed to achieve, efficiently and economically, the goals for American agriculture established by the Congress and the President. The Department's programs, in turn, are coordinated with the activities of other Government departments and agencies both in domestic and foreign affairs, to ensure consistency in policies and methods in governmental administration.

In fulfilling these responsibilities, the Immediate Office of the Secretary provides general leadership and direction to the Department's constituent agencies. Agricultural policies and plans are formulated and adapted to the complex changing conditions in the Nation's economy. The progress of agricultural programs is continuously evaluated to ensure that accomplishments are consistent with the Department's prescribed objectives and with established standards of sound management. Program and management problems with special significance and broad implications are given careful attention to assure their constructive resolution in a manner consistent with overall policy.

REGULATORY HEARINGS AND DECISIONS

The Office of Administrative Law Judges, under a designation of authority, holds rule making and adjudicatory hearings and issues initial decisions and orders in cases coming under the Administrative Procedures Act (7 USC 551 et seq.), which become final unless appealed as provided in the Rules of Practice governing proceedings under the various statutes. The judges perform related duties if not inconsistent with their duties under said Administrative Procedures Act.

The table below shows the number of hearings held by Administrative Law Judges during the past five fiscal years. Prior to FY 1974, the judges rendered only recommended decisions. The statistics below show not only the hearings held but also the case dispositions consisting of initial decisions after hearings, initial decisions on admission of facts, and consent orders after hearings or upon waiver of hearing.

	1971	1972	1973	1974		1975	
				Hear-ings	Dispo-sition	Hear-ings	Dispo-sition
Agricultural Marketing Agreement Act, 1937 .	41	40	38	28	5	24	9
Packers and Stockyards Act	9	13	15	10	107	16	123
Perishable Agricultural Commodities Act ..	6	--	2	10	23	8	28
Commodity Exchange Act	4	9	5	13	11	9	16
Sugar Act	3	2	1	--	--	--	--
Potato Research & Promotion Act	3	--	--	--	--	--	--
Tobacco Inspection Act	3	2	1	--	--	--	--

	1971	1972	1973	1974		1975	
				Hear-ings	Dispo-sition	Hear-ings	Dispo-sition
Veterinary Accredita- tion under ARS	4	--	--	1	1	--	--
Laboratory Animal Welfare Act	1	--	1	1	2	5	11
Horse Protection Act	--	--	--	1	--	4	17
Federal Insecticide, Fungi- cide & Rodenticide Act ..	3	--	--	--	--	--	--
Federal Meat Inspection Act	--	--	--	--	--	1	1
Egg Research and Consumer Information Act	--	--	--	--	--	5	--
Adverse Personnel Action Appeals	8	29	13	15	14	6	9
Miscellaneous	--	--	3	8	9	3	5
Totals	85	95	79	87	172	81	219

The Judicial Officer serves as final deciding officer, in place of the Secretary, in regulatory proceedings of a quasi-judicial nature where the applicable statute requires a hearing. These include cases in which an Administrative Law Judge files an initial decision and also reparation proceedings under the Perishable Agricultural Commodities Act and the Packers and Stockyards Act which are not subject to the Administrative Law Judge provisions of the Administrative Procedure Act. Exceptions to an Administrative Law Judge's Initial Decision may be filed by any party to the proceeding and oral argument is available before the Judicial Officer before the preparation and issuance of the final decision and order.

The Judicial Officer acts directly without reference to an Administrative Law Judge upon applications to dismiss petitions and applications for interim relief by petitioning handlers under Section 8c (15)(a) of the Agricultural Marketing Agreement Act. The Judicial Officer also rules directly upon matters arising in proceedings such as motions to dismiss that are certified by the Administrative Law Judges without recommendation.

The following examples will illustrate the type of cases decided by the Judicial Officer during the last year.

Packers and Stockyards Act. In In re Harry C. Hardy, P&S Docket No. 4615, the Judicial Officer issued a 39-page decision reversing the Initial Decision by the Administrative Law Judge and suspending the respondent's registration under the Act for 14 days. The Judicial Officer held that the respondents, who operated an auction stockyards, were improperly using shippers' proceeds required to be maintained in a custodial account to extend credit to buyers. The stockyard operators argued that their use of the "float" in the custodial account was permissible since they had a line of bank credit. The Judicial Officer also held that official notice was not taken of the P&S files showing that, after the hearing in this case, the respondents formed a corporation which would have circumvented any suspension order issued in the case. The Judicial Officer suspended the registration of the new corporation, as well as the respondents' prior registration as a partnership.

Perishable Agricultural Commodities Act. In In re M. & H. Produce Co., Inc., PACA Docket No. 2-2757, the Judicial Officer issued a 121-page decision reversing the Initial Decision by the Administrative Law Judge. The Judicial Officer held that the acceptance by creditors of partial payment because of the respondent's bankruptcy was no defense in the disciplinary proceeding

under the Act. The Judicial Officer "pierced the corporate veil" and held that a check-kiting fraud engaged in by the respondent's officers was actually the respondent's fraud.

In In re Maine Potato Growers, Inc., PACA Docket No. 2-2981, the Judicial Officer issued a 71-page decision affirming the decision of the Administrative Law Judge, which suspended the respondent's license for 60 days for misbranding potatoes as U.S. No. 1 when they were not, in fact, U.S. No. 1. The Judicial Officer held that copies of inspection certificates are sufficient evidence to support a finding of misbranding; that copies of inspection certificates are not required to be signed by the inspectors; and that intent to misbrand is not an element of the violations.

The Hearing Clerk. The Hearing Clerk handles the pleadings, hearing records, etc., under the cases arising under the Department's regulatory statutes. In addition, the Hearing Clerk handles the comments received from the public as to proposed changes in rules, regulations, policies, etc., for which Department agencies sought comments from those concerned. Thousands of comments were received and filed by the Hearing Clerk.

PASSENGER MOTOR VEHICLES

The Budget Estimates for 1977 continue the authority to replace, if necessary, one automobile used by the Secretary and his staff.

As of December 1, 1975, only one Department-owned automobile was operated in the District of Columbia (1971 Ford Custom 500). One vehicle is rented on an annual basis for use by the Secretary of Agriculture.

DEPARTMENTAL ADMINISTRATION

Purpose Statement

The Departmental staff offices provide staff support to the top policy officials of the Department and overall direction and coordination to the work of USDA's program agencies to ensure the efficient and effective management and operation of the Department.

Activities carried out by Departmental staff offices include:

- Overall administration of the budgetary and fiscal affairs of the Department and leadership in planning and administering the Department's management program;
- Staff and support services to agency programs in the management of real and personal property, procurement, contracts, and other administrative functions;
- Leadership in planning and operation of the Department's automatic data processing resources;
- The personnel management program of the Department;
- Coordination and supervision of the Department's equal opportunity responsibilities; and
- General direction and supervision of the Department's information program.

These functions are performed under the general authority of the Secretary to supervise and control the work of the Department as contained in the Organic Act (7 U.S.C. 2201-2202).

Central Services. In addition to the staff activities indicated above, the Departmental staff offices provide certain central services to the agencies of the Department. These services are financed under the Department's Working Capital Fund (7 U.S.C. 2235) and include personnel, payroll, supply, reproduction, visual information and computer services. A detailed explanation of these activities is presented at the end of this section in the Working Capital Fund section.

Geographic Location. The staff offices financed from this appropriation are all located in Washington, D. C. Central services are provided by the National Finance Center located in New Orleans and by the Department's computer centers located in Washington, Kansas City, New Orleans, St. Louis, and Fort Collins, Colorado.

Utility

Utility

Available Funds and Man-Years
1975 and Estimated, 1976 and 1977

Manageable	Actual		Estimated		Budget Estimate	
	1975		Available, 1976		1977	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Departmental Administration ..	\$12,028,785	453	\$13,665,000	512	\$14,324,000	526
<u>Obligations under other USDA</u>						
<u>appropriations:</u>						
Health services for agencies						
of the Department	47,687	3	62,000	3	62,000	3
Consideration of formal em-						
ployee grievances and ad-						
verse action appeals	46,100	2	54,000	2	54,000	2
Upward Mobility Program	94,438	4	117,000	4	117,000	4
Agricultural Research						
Service for pesticides in-						
formation	24,540	- -	25,000	- -	25,000	- -
Office of the Inspector						
General for operations re-						
view and analysis	302,459	12	- -	- -	- -	- -
Visitor Information Center ..	20,000	2	30,000	2	30,000	2
U. S. Agricultural Service						
centers program	109,146	5	116,000	4	116,000	4
Executive Development Pro-						
gram	- -	- -	72,000	3	72,000	3
Management support services						
provided by staff offices						
for reimbursable and work-						
ing capital fund acitivities						
.....	1,337,110	69	1,632,000	73	1,632,000	73
Miscellaneous reimbursements	6,800	- -	23,200	- -	23,200	- -
<u>Working Capital Fund:</u>						
Centralized supply, dupli-						
cating, mail and communica-						
tions services	6,679,674	225	7,113,100	227	8,473,100	227
National Finance Center	15,637,425	814	14,692,000	920	15,628,000	966
Employee training programs ..	478,068	3	537,000	4	564,000	4
ADP systems	19,056,494	410	17,244,000	464	25,291,000	523
Central visual production						
services	2,944,982	63	2,750,000	67	2,663,000	67
Total, Working Capital Fund	44,796,643	1,515	42,336,100	1,682	52,619,100	1,787
Total, other USDA appropria-						
tions	46,784,923	1,612	44,467,300	1,773	54,750,300	1,878
Total, Agriculture Appropria-						
tions	58,813,708	2,065	58,132,300	2,285	69,074,300	2,404
<u>Other Federal Funds</u>	1,000	- -	4,100	- -	4,100	- -
<u>Non-Federal Funds</u>	63,291	- -	12,000	- -	12,000	- -
Total, Departmental Adminis-						
tration	58,877,999	2,065	58,148,400	2,285	69,090,400	2,404

Wks
for
wks



	1975 <u>Actual</u>	1976 <u>Estimated</u>	1977 <u>Estimated</u>
End-of-Year Employment:			
Permanent full-time	1,842	1,986	1,986
Other	237	233	217
Total	<u>2,076</u>	<u>2,219</u>	<u>2,203</u>

DEPARTMENTAL ADMINISTRATION

Appropriation Act, 1976	\$12,874,000 a/
Budget Estimate, 1977	14,324,000
Increase in Appropriation	+1,450,000

Adjustments in 1976:

Appropriation Act, 1976	\$12,874,000	
Activities transferred from the Office of Planning and Evaluation b/	+437,000	
Activities transferred from the Judicial Officer c/	+16,000	
1976 Supplemental Appropriation for pay costs	+338,000	
Adjusted base for 1977		13,665,000
Budget Estimate, 1977		14,324,000
Increase over adjusted 1976		+659,000

a/ Excludes \$2,755,000 appropriated for the Economic Management Support Center.

b/ On August 15, 1975, the activities of the Office of Planning and Evaluation relating to policy analysis, the development of long-range program plans, and the administration of the Department's program evaluation system were reassigned to the Office of Management and Finance. Actual transfer of funds of \$377,000 was made in 1976. On a comparable basis, the full annual cost of these activities is \$437,000.

c/ On September 2, 1975, functions relating to the publication of "Agriculture Decisions" were transferred from the Judicial Officer to the Office of Communication. Actual transfer of funds of \$10,900 was made in 1976. On a comparable basis, the full annual cost of this activity is \$16,000.

SUMMARY OF INCREASES

(On basis of adjusted appropriation)

	<u>1976</u>	<u>Increases</u>	<u>1977 Estimate</u>
Budget, fiscal and management:			
For budget and operations review and analysis	\$2,924,721	+\$61,000	\$2,985,721
General operations:			
For space management and grants administration	1,181,217	+56,000	1,237,217
Personnel administration	1,707,127	+167,000	1,874,127
Information services:			
For printing of bulletins and the Yearbook of Agriculture ...	4,145,000	+198,000	4,343,000
GSA space rental costs	1,014,000	+48,000	1,062,000
Annualization of the pay cost in- crease effective in FY 1976	338,000	+129,000	467,000
All other	2,354,935	--	2,354,935
Total available	<u>13,665,000</u>	<u>+659,000</u>	<u>14,324,000</u>

PROJECT STATEMENT
(On basis of adjusted appropriation)

	1975	1976 (Estimated)	Increases	1977 (Estimated)
1. Budget, fiscal and management	\$2,548,885	\$3,212,721	+\$102,000(1)	\$3,314,721
2. General operations	1,228,990	1,510,217	+97,000(2)	1,607,217
3. ADP systems	113,451	191,335	+8,000(3)	199,335
4. Personnel administration	1,646,177	1,900,127	+191,000(4)	2,091,127
5. Equal opportunity	2,278,379	2,394,600	+28,000(5)	2,422,600
6. Information services ..	4,118,650	4,456,000	+233,000(6)	4,689,000
Unobligated balance	94,253	- -	- -	- -
Total available or estimate	12,028,785	13,665,000	+659,000	14,324,000
Transfer from OP&E	-420,600	-437,000		
Transfer from Judicial Officer	-16,000	-16,000		
Transfer from ASCS	-17,000	- -		
Transfer to OGC	+55,000	- -		
Proposed supplemental for pay costs	- -	-338,000		
Total appropriation	11,592,185	12,874,000		

EXPLANATION OF PROGRAM

This appropriation provides funding for the following activities:

Budget, Fiscal and Management. This activity includes staff services related to formulation, presentation, and execution of the budget; fiscal policies and systems; legislative and financial reporting; planning, administering and evaluating the Department's management program; operations review and analysis; and the administration of the Department's program evaluation system. Also included are management support services in the areas of budget and finance provided to the Office of the Secretary and Departmental staff offices.

General Operations. This activity includes staff and support services to agency programs in the management of real and personal property, contracts, grants, agreements, business assistance, supply, transportation, motor vehicles, telecommunications, physical security, correspondence, records and mail, procurement and other administrative services provided to the Office of the Secretary and Departmental staff offices; and operates central supply, printing, composing, copier, mail and messenger services for agencies in Washington, D. C.

ADP systems. This activity includes leadership in designing, acquiring and utilizing the Department's ADP resources as well as operation of the Department's computer centers.

Personnel Administration. This activity includes responsibility for the personnel management program of the Department; leadership, supervision and coordination of classification and standards; salary and wage administration; employment and manpower planning; personnel and records security; standards of employee conduct; discipline; employee relations; employee appeals; employee development; program evaluation; health, safety and welfare; incentive awards; labor-management

relations; personnel legislation; employee fringe benefits; equal employment opportunity programs; the Upward Mobility Program, and other personnel activities. Also included are personnel services provided to the Office of the Secretary and Departmental staff offices.

Equal Opportunity. The Civil Rights Act of 1964 and subsequent Executive Orders require program and policy direction in the development and enforcement of Departmental equal opportunity responsibilities. This involves review, analysis, and evaluation of agency programs and operations to determine compliance with policies, rules and regulations of the Department and the Federal Government. It also involves the processing of complaints of discrimination in the execution of the Department's programs and the coordination of enforcement of the contract compliance requirements of Executive Order 11246.

Information Services. This activity involves general direction and supervision of all publications and other information policies and activities of the Department including the final review, illustrating, printing and distribution of publications, clearance and release of press, radio, television, and magazine materials; maintenance of central files of news and general illustration-type photographs and color slides; and the preparation and distribution of exhibits. It includes publication of the Yearbook of Agriculture, the annual report of the Secretary of Agriculture, "Agriculture Decisions", and the Department List of Publications; handling the details of distributing farmers' bulletins allotted to Members of Congress; and servicing letter and telephone requests for general information received in the Department.

JUSTIFICATION OF INCREASES

- (1) An increase of \$102,000 for Budget, fiscal and management consisting of:
 - (a) An increase of \$34,000 for annualization of pay increases effective in FY 1976.
 - (b) An increase of \$7,000 for space rental costs pursuant to P.L. 92-313.
 - (c) An increase of \$61,000 for budget and operations review and analysis.

Need for Increase. The Office of Management and Finance has assumed responsibility for integrating program and operations review and analysis with the budget formulation and review process. A professional staff consisting of both program and budget analysts has been organized to perform this function.

In addition to the need to coordinate program with budget decisions within the Department, the Congressional Budget and Impoundment Control Act imposes additional responsibilities on the legislative and budget committees of the Congress to evaluate the budgetary impact of legislative proposals. More effective communications between the legislative and executive branches is necessary to successfully carry out this new Act.

Reviews and analyses of agency program operations are conducted, in close coordination with the Office of Audit, to identify issues and recommend alternatives to top Departmental Officials in program, policy and budgetary decision-making. The staff also reviews agency budget proposals, legislative proposals and reports and proposed reorganizations for operational and resource impact on USDA programs. In addition, assistance is provided to all USDA agencies regarding program objectives as well as operational and budget matters.

Plan of Work

Three additional man-years are requested to provide:

1. Analyses to implement the Budget Control and Impoundment Act of 1974.
2. Additional reports requested by the Congressional budget committees, legislative committees and the Congressional Budget Office.
3. Better coordination within the Department of budget analyses, operations reviews, audits, program evaluations and management analyses.

(2) An increase of \$97,000 for General operations consisting of:

- (a) An increase of \$18,000 for annualization of pay increases effective in FY 1976.
- (b) An increase of \$23,000 for space rental costs pursuant to P.L. 92-313.
- (c) An increase of \$24,000 for space management.

Need for Increase. The adoption and attainment of the Department's space reorganization and consolidation plan will result in a long term increased workload. Preliminary planning work has been accomplished by on-board personnel at the expense of the day-to-day operations. This plan, when implemented will necessitate extensive space reassignments and billings. These must be carefully monitored to assure that the proper agency will be charged for the correct amount and type of space. In addition, the Federal Buildings Fund program which affects all 32 USDA organizations located in the Headquarters Complex has required extensive reporting and monitoring. The system to pro-rate the cost of space charges requires constant updating, verification and revision. Space records must be processed and corrections sent to GSA. Reimbursable charges to agencies must be verified and processed and services provided under Standard Level User Charge must be monitored and discrepancies reported and corrected.

Plan of Work. The increase requested would provide the Office of Operations with the necessary resources to accomplish the increased workload which has resulted from the overall space reorganization and consolidation plan as well as from the Federal Buildings Fund program. Considerable coordination must be maintained with all USDA agencies, the General Services Administration, the C&P Telephone Company, contractors and other private concerns.

- (d) An increase of \$32,000 for grants administration.

Need for Increase. There is a Government-wide effort to standardize and streamline the grant and agreement processes which have historically been managed by the program agencies. Increasing activity has required the assignment of other staff members to grants projects. This has resulted in reduced attention to the procurement function. Agencies have been called upon to supplement this staff in Departmental and interagency projects. Several factors which will increase the workload in the grants administration are: (1) Transfer of OMB Circular function from Rural Development Service; (2) GSA standardization of administrative requirements for grants and agreements with hospitals, institutions of higher learning, and public and private non-profit organizations; (3) Report of GSA/OMB task force to coincide with proposed Senate Bill S. 1437 on definitions and uses of grants, contracts, and cooperative agreements; (4) Increasing numbers of requests for reports on Federal assistance and cooperative projects; and (5) Assignment of coordination responsibility for all grant and agreement policy matters between staff offices of the Department.

Plan of Work. Increasing activity in the grants and agreements function requires the addition of one man-year to this staff. A little over one man-year is presently devoted to this function. It is planned to increase the manpower devoted to grants administration in the following areas: (1) Liaison with OMB, GSA, other Departments and Agencies, USDA agencies and the public; policy development and interpretation; and legislative reporting; (2) Writing Department regulations; resolving agency problems, serving on interagency task forces; and developing training materials; and (3) Report writing; procedural aspects of A-95 and other material; and factual research and analysis.

- (3) An increase of \$8,000 for ADP systems consisting of:
 - (a) An increase of \$1,000 for annualization of pay increases effective in FY 1976.
 - (b) An increase of \$7,000 for space rental costs pursuant to P.L. 92-313.
- (4) An increase of \$191,000 for Personnel administration consisting of:
 - (a) An increase of \$20,000 for annualization of pay increases effective in FY 1976.
 - (b) An increase of \$4,000 for space rental costs pursuant to P.L. 92-313.
 - (c) An increase of \$51,000 for the safety program.

Need for Increase. Public Law 91-56 dated December 29, 1970, and Executive Order 11807, dated September 28, 1974, place a mandatory requirement on the Secretary of Agriculture to establish and maintain an effective and comprehensive occupational safety and health program consistent with the standards of the Occupational Safety and Health Act of 1970.

Under the Act the Secretary of Agriculture is required to provide safe and healthful places and conditions of employment; to acquire, maintain and require the use of safety equipment, personal protective equipment, and devices reasonably necessary to protect employees; to keep adequate records of all occupational accidents and illnesses for proper evaluation and necessary corrective action; to consult with the Secretary of Labor with regard to the adequacy, form and content of the records kept; and to make an annual report to the Secretary of Labor with respect to occupational accidents and injuries and the Department's program.

The responsibility for formulating and issuing Departmental policy, standards, and rules and regulations concerning the safety program is vested in the Director of Personnel. Since the early 1950's when budgetary restrictions required the termination of a full-time safety officer, the program has been handled on a part-time basis. Because of the statutory requirements, Executive Order, and Administrative Regulations, the Department is required to staff the Safety Program on a realistic basis. This need is real since in addition to the requirements mentioned above, the Department of Labor, in evaluating the injury record of Department employees, has rated USDA equal with the Veterans Administration in possessing the highest critical index in government. Also, GAO recently finished an evaluation which was justifiably critical of the USDA program.

Plan of Work. The increase requested would finance one professional and one clerical position which would:

1. Provide full-time management for the Safety Program, including the formulation of policy and regulations affecting the entire Department.
2. Coordinate the safety efforts of all of the Agencies within USDA.
3. Evaluate Agency programs.
4. Serve as USDA spokesman with the Department of Labor.

(d) An increase of \$41,000 for employee appeals.

Need for Increase. In FY 1971 revised Civil Service Commission regulations required that employee grievances be processed by a qualified Examiner. In 1972, Public Law 92-261 placed stringent requirements on the processing of equal employment opportunity complaints. As a result, the total appeals workload has increased by 65 percent since 1971. In addition, the existing appeals staff is required to participate in other activities such as training, employee counseling, and providing guidance to agency personnel offices. Additional staff support is needed within the Office of Personnel in order to process the volume of cases within the regulatory time allotted while continuing to provide quality service to USDA agencies and employees in other areas.

Plan of Work. The increase requested would finance one professional and one clerical position. This would enable the Office to reduce the existing case backlog and process new cases within the time limits established by law and Civil Service regulations.

(e) An increase of \$75,000 for personnel operations.

Need for Increase. The Office of Personnel is responsible for providing a full range of personnel management services for the Office of the Secretary and staff offices, the Office of the Inspector General and the Office of the General Counsel. Services are provided for more than 3,000 employees geographically located throughout the United States in the areas of organization, position classification, position management, recruitment, placement, performance evaluation, qualification standards, employee relations and conduct, wage administration, labor-management relations, equal employment opportunity, and other personnel services.

In Fiscal Year 1976 a staff of 31 employees is assigned to provide these services. This has not proved adequate to provide the quality and quantity of services needed by the assigned agencies especially in light of continuing increases in workload requirements. Specifically, additional staff support is needed in the areas of position classification and employee relations. Additional clerical support is needed to keep up with the processing of personnel actions and other related documents as well as maintenance of individual employees personnel records for all serviced agencies.

Plan of Work. The requested increase would provide financing for one personnel classification specialist, one employee relations specialist and three personnel clerks.

- (5) An increase of \$28,000 for equal opportunity consisting of:
 - (a) An increase of \$26,000 for annualization of pay increases effective in FY 1976.
 - (b) An increase of \$2,000 for space rental costs pursuant to P.L. 92-313.
- (6) An increase of \$233,000 for information services consisting of:
 - (a) An increase of \$30,000 for annualization of pay increases effective in FY 1976.
 - (b) An increase of \$5,000 for space rental costs pursuant to P.L. 92-313.
 - (c) An increase of \$198,000 for printing of bulletins and the Yearbook of Agriculture.

Need for Increase. The Printing Limitation Fund pays for re-printing popular publications of the Department and the Yearbook. Because of anticipated design and printing cost increases, based on recent experience, the reprint fund requires the proposed increase to maintain the level of service to Congress, Land Grant institutions, and the public.

STATUS OF PROGRAM

BUDGET, FISCAL AND MANAGEMENT

This activity includes leadership and direction in budgetary and fiscal matters, internal management of the Department, and the performance of necessary staff work such as:

Preparation of budget estimates including:

- Review and analysis of budget estimates;
- Preparation of budgetary and statistical statements and summaries;
- Consolidation of materials for the estimates submitted to the Office of Management and Budget;
- Consolidation of budget data and preparation and maintenance of the automated budget status file;
- Review and analysis of Program and Financial Plans and development of alternatives and supporting data for presentation to the Secretary;
- Preparation of supporting justifications for budget requests, in cooperation with the Department's agencies, for use by the Appropriations Committees of the Congress in considering the President's Budget and subsequent rescission and deferral proposals; and
- Preparation and consolidation of information requested by the Budget Committees of the Congress.

Management and control of funds including:

- Allotment and apportionment of appropriated funds;
- Review of obligation and expenditure reports, particularly to assure that programs are carried out in accordance with the intent of the Congress, the requirements of the Executive Branch, and pertinent laws and regulations;
- Special arrangements, as required, for financing cooperative undertakings; and
- Analysis of Department manpower requirements.

Direction of fiscal policies and accounting systems including:

- Formulation of accounting and fiscal policies and consultation on and development of accounting systems; and
- Liaison with the General Accounting Office, the Office of Management and Budget, and the Treasury to advance financial management objectives throughout the Government.

Coordination of budgetary and operations review and analysis including:

- Cooperation with USDA agencies and top policy officials of the Department in developing USDA program objectives and providing

ongoing review and coordination to determine progress in meeting these objectives; and

- Providing comprehensive analysis of program operations and related proposed reorganizations, and identifying key Secretarial issues.

Departmentwide management systems coordination and management improvement support including:

- Implementing systems and techniques for management appraisals;
- Managing Departmental forms and management reports;
- Administering Departmental directives management programs including Departmental delegations of authority;
- Providing a source of internal management expertise;
- Reviewing agency and staff office reorganization proposals;
- Preparing external management improvement reports;
- Coordinating committee activities within the Department;
- Reviewing contract proposals for management services; and
- Reviewing Departmental commercial and industrial activity.

Operation of certain central services (financed from appropriated and working capital funds) including:

- The Department's central payroll and personnel systems;
- The Department's central voucher payment system;
- The Department's central billing and collection system;
- Development of a central Departmentwide accounting system; and
- Accounting, reporting and budgetary services for the Office of the Secretary and other staff offices comprising Departmental Administration.

Legislative and Financial Reporting including:

- Review and distribution of approximately 30,000 House and Senate bills, resolutions, reports, and other legislative materials each Congress;
- Preparation and maintenance of legislative histories of laws affecting the Department;
- Tracking of over 2,000 bills of interest to USDA through the legislative process each Congress;
- Daily preparation and distribution of a Digest of Congressional Proceedings of interest to the Department of Agriculture when Congress is in session;
- Assistance and coordination in developing a legislative program for the Department;
- Assistance and coordination in the preparation of over 1,000 legislative reports each congressional session;

- Annual publication of a Digest of Agricultural Legislation enacted each congressional session;
- Preparation of certain budget special analyses and appropriation hearing tables;
- Assistance and guidance to agency budget and finance staffs in major reporting areas including data on obligations by geographic location, Catalog of Federal Domestic Assistance, data on research and development activities for NIH and NSF, payments to or in aid of States and local units of government;
- Liaison with the Office of Management and Budget, other Federal agencies, and the Congress on legislative and financial reporting matters;
- Informing congressional committees of USDA witnesses for upcoming hearings, and maintaining and distributing a schedule of such hearings;
- Preparation of weekly report for the Immediate Office of the Secretary concerning the status of Agriculture legislative proposals, hearings, and selected legislation; and
- Preparation and coordination of non-receiving report requests from the Congress, the general public, and others.

Various other staff services such as:

- Administration of limitations on employment, travel and personnel compensation;
- Review and appraisal of agency cost reduction validation procedures; and
- Preparation and coordination of responses to requests from members of Congress, other Federal agencies, and the general public for information about the program and financial affairs of the Department.

Selected Examples of Recent Progress

National Finance Center. Development of a centralized accounting system by the National Finance Center of the Office of Management and Finance has made substantial progress. A general system design and implementation plan was developed with significant developmental work completed for a skeletal phase of the accounting system. In addition, the following related projects were accomplished in FY 1975:

- Personnel Data Base -- An on-line personnel data base containing data on 120,000 employees was implemented;
- Government Transportation Requests -- An automated system was implemented for retaining the accountability and allocation of Departmentwide Government Transportation Requests;
- Commercial Telephone -- This administrative payment subsystem provides for automated payment to the commercial telephone companies and universities. All services performed by the telephone companies are billed directly to the NFC. A computer master file contains the complete information concerning each vendor and service location.

- Gasoline Credit Cards -- The U. S. Department of Agriculture operates a large fleet of motor vehicles. A national credit card is used by the various USDA locations to purchase gasoline, oil, and other gasoline services. All billings from the petroleum companies for these purchases flow directly to NFC for payment. This consolidation has reduced the number of checks and tax exemption certificates that have to be issued.
- Small Purchases -- This system also provides for direct payment from NFC to the vendors for over-the-counter purchases of supplies and services. The original purchase order with the proper accounting data is submitted from the agencies to NFC in order to process these payments.

GENERAL OPERATIONS

Real Property Management. This activity includes general direction to agencies in:

- The management of space occupied by their operations;
- Building construction, operation and maintenance programs;
- Telecommunications;
- Abatement of pollution at Federal facilities;
- Location of facilities in areas of lower population density;
- Administration of Uniform Relocation Assistance Act; and
- Related activities.

Consolidated Housing. The agricultural service centers program was created to reemphasize the Department's long-standing effort to accomplish county office colocations. Colocation offers greatly improved service to farmers, ranchers and other rural residents wishing to transact business with the Department. It also results in more efficient utilization of USDA county resources. The centers house the farm-oriented agencies of USDA, and wherever possible, those of state and local government. To date over 1,000 locations have been recommended as centers and over 700 locations have been approved. Over 50 are fully operational and about 500 are partially operational.

Federal Buildings Fund ("Pay for Space"). The Federal Buildings Fund provision of the 1972 Public Buildings Amendment directs GSA to bill Federal agencies the equivalent commercial rental rates for space under GSA control. The Department's Standard Level User Charge bill for FY 1976 is projected to be \$63.1 million. Efforts are continuing to correct billing errors and obtain proper rate adjustments.

Location of Facilities in Rural Areas. Major relocations are reviewed for compliance within the Office. During 1975 the Department established or relocated 692 facilities involving 4,835 employees. Of these, 533 facilities and 2,740 employees were in rural areas. The Annual Report on Executive Departments and Agencies' efforts to give first priority to locating new offices and other facilities in rural areas is compiled within the Office.

Personal Property Management. This activity provides general direction to agencies in managing the acquisition, storage, distribution, use and disposition of personal property. The Office carries out a Materials Management

program to assure that adequate control over all personal property is maintained. Selection and Management guides are prepared for office machines needing extra management emphasis.

Utilization of Excess Property. Redistribution within the Department was arranged for excess personal property with an acquisition value of \$1,579,855. Excess personal property having an acquisition value of \$45,167,715 was picked up from other Government agencies.

Motor Vehicle Management. During fiscal year 1975 the Department used 32,618 Government-owned or leased motor vehicles. Of these 29,262 were agency-owned general purpose vehicles; 2,426 were Interagency Motor Pool vehicles, and 930 were from commercial sources. Agency utilization and cost reports for fiscal year 1975 were reviewed with the major fleet-owning agencies. Operation and maintenance costs were examined for unusual expenditures. A centralized motor vehicle management information system is being developed to improve fleet utilization and cost control.

Conservation of Energy. Implementation of the Federal program to reduce the consumption of fossil fuels and electricity continues. Motor vehicle mileage was reduced 23 percent below base year 1973, adjusted for 1975 program requirements. To the extent possible, replacement motor vehicles are limited to those using less fuel per mile. Conservation in the use of electricity and heating fuel conservation practices in buildings is being practiced. Plans are being developed to increase the thermal efficiency of older facilities and to incorporate improved practices in planned new structures.

Developing Use of Non-Government Resources. The office coordinated Departmental participation in 23 Business/Opportunity/Federal Procurement and Minority Business Opportunity/Federal Procurement conferences throughout the country. 136 written inquiries from the public were answered.

Administering the Use of Contracts. During Fiscal Year 1975 the office published a revision of "Selling to the United States Department of Agriculture"; issued five amendments to the Agriculture Procurement Regulations; continued emphasis on support of small business; submitted 117 position papers, reports, and comments on proposed legislation or regulations to other government agencies; and provided specialized expertise and support to USDA program agencies on request.

Blanket purchase arrangements entered into between this office and 28 GSA Federal Supply Service schedule contractors grossed savings of approximately \$150,000 for the Department in FY 1975.

Management Support Services. Management support is provided to the Office of the Secretary and Staff Offices. District of Columbia Space management involves about 1.9 million square feet of space. Over 400 space alterations, 375 telephone changes, 600 office moves and 5,000 space-related complaints have been responded to.

Central Departmental Operations. This activity also provided the following Departmentwide centralized services.

- Correspondence referral and records management services for the Office of the Secretary;
- Photo composition services for the Department;
- Mail distribution in the Departmental headquarters buildings;
- A central supply facility which includes operation of a supply and forms warehouse and forms service nationwide for all agencies of the Department;

- Duplication, reproduction and copier services; and
- Automated mailing lists.

Disposition of Real Property. Removal of unneeded or outmoded facilities from inventory results in savings in protection and maintenance costs. The Department identified as surplus, property costing \$1,932,282 and completed disposal action on property costing \$1,541,061.

Acquisition of Real Property. During FY 1975, three parcels of land with improvements totaling 1,316.23 acres were acquired without cost to the Department. The appraised fair market value of the properties acquired was \$1,303,700.

Uniform Relocation Assistance. Under the uniform relocation assistance and real property acquisition regulations, the Department paid approximately 235 claims totaling \$1,012,387 and acquired 992 parcels of land valued at \$35,263,484. Regulations are being revised in several areas which will result in uniformity in implementation of P.L. 91-646. We are continuing cooperative efforts through an inter-agency committee to bring about additional uniformity.

ADP SYSTEMS

Centralization of the Department's ADP Resources. The Department continues to operate its major ADP facilities under centralized management. In October 1975, the Department cancelled its major ADP procurement which would have provided upgraded equipment in four computer centers and closed down the fifth center. Current plans are to upgrade each of the centers using four separate procurements.

Minneapolis Computer Center. The Minneapolis Computer Center was closed in March 1975 resulting in an annualized savings of \$480,000. Work formerly processed at the Minneapolis Computer Center was shifted to the Fort Collins Computer Center.

Computer Center Performance. Overall computer center availability or "up" time increased from 90 percent in FY-74 to 97 percent in FY-75 due to a variety of system and management initiatives. This improvement resulted in an additional 100+ hours of processing time a month and was a significant factor in supporting a 63.5 percent increase in jobs processed for the year.

Implementation of Telecommunications Network. The shared wideband network has been reconfigured and the line speed lowered from 50 kilobits per second to 19.2 kilobits per second at a decrease of \$36,720 in annual communication costs. This has reduced the individual line capacity but allows for installing redundant circuits when required at less cost because of line contention. The network has also been expanded to inter-connect with the Fort Collins Computer Center and the remote work-station of FNS located in Minneapolis, Minnesota. All reconfiguration activities took place smoothly while agency remote workloads were continuously supported. Presently, four computer centers -- Washington, New Orleans, Kansas City, and Fort Collins -- are now accessible from selected remote work-station via the shared network.

Information Systems. Data base management systems have been installed at the Washington, New Orleans and Fort Collins Computer Centers. These automated systems permit authorized agencies to access and retrieve information from the 27 data bases managed by the system. In June 1975,

an automated inventory of Departmental data bases operating under the previously mentioned data base management systems was established. A catalogue describing the type of information included in each data base and the responsible agency was published in September 1975.

PERSONNEL ADMINISTRATION

The Office of Personnel provides general liaison, direction, leadership, and coordination of the personnel management program of the Department. This program includes organization, classification and standards; leave administration; personnel systems design; salary and wage administration; employment and manpower planning; personnel and records security; standards of employee conduct; discipline; employee relations; appeals; employee development; program evaluation; health; safety and welfare; incentive awards; labor-management relations; personnel legislation; employee fringe benefits; equal employment programs; and other related personnel activities. The Office promulgates Departmental policies and procedures relating to these functions. The operational phases of this program have been substantially delegated to the Agencies. In addition, direct personnel services are provided to the Office of the Secretary and Departmental Staff Offices. Among the significant accomplishments during fiscal year 1975 were:

Equal Employment Opportunity

The FY 1976 EEO Plan for the Department was developed as required by the EEO Act of 1972. In addition, the EEO staff reviewed and approved the EEO Plans for each of the Departmental Agencies; reviewed statistical and narrative reports on EEO activities in the Department; and provided evaluations of the EEO Program to the Assistant Secretaries and the Agency Heads.

One hundred and six investigators participated in a special training course on conducting investigations of discrimination complaints. A special training session on the concerns of various minority groups was presented to the Assistant Secretaries and the Agency Heads during the year. Lectures, training sessions and workshops were conducted for USDA employees during Federal Women's Week.

In addition, the EEO staff coordinated the handling of discrimination complaints from USDA employees. 102 EEO complaints were filed in fiscal year 1975. USDA EEO Counselors handled 437 informal EEO complaints; corrective action was taken in 169 cases.

Personnel Management Evaluation.

Comprehensive policy and procedural guidance was prepared and issued on the Department-wide personnel management evaluation system and methodology, together with specific instructions as to minimum requirements for Agencies of USDA. All Civil Service Commission PME reports of surveys of Agriculture installations were reviewed and the Office became actively involved in assuring compliance follow-up in those cases where merit system violations or other program deficiencies indicated a need for departmental oversight. In addition, representatives of the Office participated in personnel management surveys of the Forest Service's Regional Office, Ogden, Utah; the National Finance Center, New Orleans, Louisiana; and the Schenk Civilian Conservation Center, Brevard, North Carolina.

Labor Management Relations. During FY 75, Executive Order 11838 amending Executive Order 11491 was issued and is expected to have a great impact on future Labor-Management Relations actions. Many local unions held off negotiating new agreements in order to obtain the broader opportunities available under the new order such as multi-union bargaining and the

"compelling need" concept. As a result, only 67 labor agreements were approved while there were six extensions. The "compelling need" concept allows a union to negotiate agency regulations when the agency fails to prove its regulations meet the "compelling need" criteria of the Federal Labor Relations Council (FLRC). We anticipate numerous requests for our rationale on "compelling needs" as it applies to negotiating USDA regulations.

Technical advice and counsel was furnished to the Office of the General Counsel in processing the application of Section 3(b)4 of Executive Order 11491 to remove the employees from the provisions of Executive Order 11491 as it applied to the Office of Investigation and the Office of Audit.

A new national dues deduction agreement was completed with the American Federation of Government Employees, the National Federation of Federal Employees, the National Association of Government Employees and two supervisory associations, the National Association of Federal Veterinarians and the Organization of Professional Employees of the U. S. Department of Agriculture.

Comments and recommendations were provided on bills H.R. 13, H.R. 4800 and H.R. 1837, which would replace Executive Order 11491 and thereby put labor relations under a statute.

There were considerable third party appeals by the labor organizations. Seven cases were processed through the Federal Labor Relations Council; five through the Assistant Secretary for Labor Management Relations and one case through the Federal Service Impasse Panel.

Employee Appeals. During Fiscal Year 1975, the Employee Appeals Division handled or participated in the processing of 309 cases. Final or recommended decisions were issued in 46 equal employment opportunity cases, 46 grievances (suspensions, reprimands and employee initiated complaints), 10 classification appeals, 9 adverse action appeals and 1 performance rating appeal. There were 173 appeals to the Civil Service Commission and 24 court cases.

The Complaints Officer handled approximately 120 employee complaints. This Office provided assistance and counsel to the Agencies on a continuing basis in all areas which included interpreting regulations; Court cases and the Department and Civil Service Commission regulations.

In addition to the above, the Appeals Division assisted in giving formal training to Agency personnel who are involved with adverse actions, appeals and EEO counseling.

Position Management and Prior Clearance. One thousand two hundred and forty five personnel actions requiring Departmental administrative clearance were reviewed for conformance with classification, merit promotion and position management requirements.

Nine Agencies were given dispensation from Departmental administrative review of personnel actions involving promotions, reassignments and accessions to established positions at GS-14-15. Though this dispensation granted the Agencies authority to take final action on these types of personnel actions and these grade levels, they are subject to on-site audit on a quarterly basis. On-site audits were conducted of 308 personnel actions in nine Agencies.

Personnel Management Information. The Office served as the USDA representative in developing, implementing, and improving the Civil Service Commission's Central Personnel Data File (CPDF) and the Federal Personnel Management Information System (FPMIS). Continuing changes have been made in the MODE System to accommodate expansions in the CPDF. A government-wide Standardization Program is underway for all personnel data items. We also have worked with GAO and OMB Government-wide personnel and payroll systems.

Work has been completed in cooperation with the National Finance Center (NFC) in the development and implementation of an on-line terminal access capability for Agency Personnel Offices. The data base consists of about 111 data items of personnel information covering 120,000 to 140,000 employees. The new system allows Agencies to inquire directly into the data base and receive information to be used in their personnel management programs. Agency top-level personnel have received information about the on-line system, and will be kept informed of progress made. Agency personnel have received training in how to use the terminals in making queries. Agencies have terminals in their Central Personnel Offices and we are now in the process of expanding usage to Regional Offices. The on-line capability will eliminate the need for a number of reports and Agency individual requests currently being produced by the National Finance Center. Work will continue on modifications and changes to the system to improve its capacity.

Training Activities. During FY 1975, 816 USDA supervisors, managers, and executives participated in the three Departmental Management development programs coordinated by the Office of Personnel: Executive Workshop in Agri-Dynamics (EXAD), Supervisory and Managerial Strategies (SAMS), and Problem Solving and Decision Making (K-T). Developmental and special project activities during FY 1975 included the publication of a USDA training films catalog; an updated catalog of special long-term training programs; the development and implementation of special training programs in performance appraisal for selected employees of the Office of Automated Data Systems; an orientation program on Federal training activities for all employees of the Office of Operations; and functional liaison with the Civil Service Commission.

Incentive Awards Program. Incentive cash awards were granted in FY 1975 to 3,742 employees and groups for their special achievements or suggestions to improve operations. Honorary awards were presented to 180 employees by Agency Heads and the Secretary. An additional 2,500 employees were rewarded for high quality job performance with an extra step increase in pay. First year measurable benefits resulting from the special efforts of 220 employees were \$988,000.

Executive Development Program. The Office of Personnel conducted a study of the needs of USDA and recommended a comprehensive Executive and Managerial Development System which is flexible enough to allow responsiveness at the agency and office level. Several agencies have developed viable programs and are willing to share their experience and expertise with others. The first step in program implementation was the identification of 1726 managerial positions in accordance with FPM Letter 412-2.

USDA Upward Mobility Program. The Upward Mobility program is designed to provide employees at the GS-1 through GS-10 grade levels in the Washington, D. C. Metropolitan Area with the job education and training opportunities needed to compete for advancement to better jobs. During FY 1975, 421 employees participated in the program.

Intergovernmental Personnel Act of 1970. The Department entered into 81 new IPA agreements with State, local governments, and institutions of higher learning. With approximately 33 Federal agencies entering into 800 agreements, USDA leads all Federal agencies by representing about 10 percent of total participation government-wide. Assignments were made in the following program areas: forestry, land management, agricultural economics, research, soil conservation, soil science, veterinary medicine, budget and finance, special food programs, and consumer programs. Evaluations of IPA assignments indicate that the Program has been successful in meeting the objectives to date.

Employment of Vietnam Era and Other Veterans. During FY 1975, the Department issued a policy statement giving support to expansion of employment opportunities for all veterans, including Vietnam Era Veterans. In accordance with Public Law 93-508, an Affirmative Action Plan for FY 1976 was developed and published for implementation at all levels throughout the Department. Training on use of special employment authorities has been provided to Coordinators for Veterans Programs.

The Department provided assistance for veterans in the areas of: education and training benefits to provide a broad range of services to veterans wishing to become more proficient farmers; co-op educational programs enabling them to gain experience in their college major and supplement the GI Bill income; job placement and access through job restructuring, Upward Mobility, on-the-job training and other special employment programs such as Veterans Readjustment Authority; and agriculture programs and services to give eligible qualified veterans loan information offered by FmHA for farm ownership, farm operations, and recreation enterprises. In addition, the Department had various welfare programs to assist veteran's families in economical nutritious family food planning and economical housing plans.

Our total full time, temporary and permanent employment from July 1974 to June 1975 decreased from 95,816 to 91,121 causing a decrease in total hires to the Department to 18,520. However, the percentage of veterans hired during this same period remained steady at 39 percent and the percentage of total hires of Vietnam Veterans remained at 22 percent (which also makes up 56 percent of the total veterans hired).

Summer Employment Programs. The Secretary set a goal of hiring at least 1,971 youths under the 1975 summer employment programs for economically and educationally disadvantaged youths. As of the end of July, the Department had 2,261 on the rolls, including: 992 Summer Aides; 1,152 Stay-in-School employees; and 117 Federal Junior Fellowships.

Central Referral. Job inquiries continue to be handled at a central point for the Department. The following comparative data shows the workload for the fiscal year:

	<u>FY 1974</u>	<u>FY 1975</u>
Replies to correspondence from Congress and other high level officials	828	927
Letters answered from the general public	6,275	7,316
Walk-in interviews	4,300	4,685

College Recruitment and Relations. A Task Force comprised of members of the Joint Committee of USDA and the National Association of State Universities and Land-Grant Colleges has established committees to work on qualifications re-

quirements related to contemporary agriculture curricula. These committees will report to the full committee at the 1976 meeting.

The Cooperative Education Program has remained steady during FY 1975, with agencies entering into agreements with 36 colleges and employing 137 students. Executive Order 11813, signed by the President in October, provides for noncompetitive conversion to career-conditional positions for any cooperative educated student who satisfies the requirements for a bachelor's degree under cooperative education. Because of this new authority, we anticipate greater use of the Cooperative Education Program in the coming year.

Merit Promotion Program. The Department-wide Merit Promotion Plan and Employee Appraisal System have been developed by an OP/Agency Task Force. A pilot test of the Merit Promotion Plan and Employee Appraisal System is currently being conducted in selected agencies and staff offices of the Office of the Secretary. The plan will be implemented Departmentwide during FY 1976.

Security and Employee Relations. The Department's Security Program operates to assure that employees and advisory committee members meet appropriate standards of loyalty and suitability, considering the duties they are expected to perform and that classified material is properly safeguarded. A moderate upward trend continues in the security program owing to the re-investigation requirements imposed by CSC; the increase in the number of intra-agency projects of a classified nature; and the increasing number of classified documents generated by increasing involvement of USDA in foreign trade negotiations, with such documents being subject to control and review procedures imposed by the Interdepartmental Committee for Classification Review.

FY 1975 workload included:

	<u>1974</u>	<u>1975</u>
Security Clearance Actions	1174	1319
Training Act Clearances	355	334
Clearances Consideration for Foreign Travel and International Conferences	1377	1436
Security Considerations of FBI Reports	175	106
NAC&I's Processed Transmitting Investi- gative Reports and/or Adverse Results	375	791
OIG Reports Evaluated	238	359
Post Audit of Disciplinary Actions	223	88
Prior Approval Actions Reviewed	1290	1080
Advisory Committee Checks	810	620
Reviews of Conflict of Interest Forms	262	275

Health. Five Health units are maintained in the Washington Metropolitan Area: one in the South Building of USDA; one in the GHI Building, Washington, D. C.; two in Beltsville, Maryland; and one in Hyattsville, Maryland.

During FY 1975 the following services were provided:

- 55,325 visits were made by employees for emergency care for accidents or illness, an increase of 6,672 over FY 1974;
- 7,356 hypos were given, including 827 for overseas shots, an increase of 3,366 over FY 1974;
- 2,819 pints of blood were collected for the American Red Cross, an increase of 224 over FY 1974;
- 2,873 flu shots were given, a decrease of 1,800 over FY 1974;
- 6,168 employees were counseled by the nurses on job related problems, an increase of 861 over FY 1974;
- Screening programs for cholesterol, breast cancer, and blood pressure reached 7,894 employees;
- The Department also cooperated with the Washington Heart Society in showing films on the subject of heart disease and how this disease is affected by diet, smoking, etc. A film was also shown on breast cancer.

Personnel Operations. The Office provides a full range of personnel management programs and services for the Office of the Secretary and Departmental Staff Offices including:

- Classification, position management, and employment actions;
- Security and foreign travel clearances;
- Employee and labor-management relations;
- Equal Employment opportunity;
- Incentive awards; and
- Retirement counseling.

EQUAL OPPORTUNITY

This activity includes development and enforcement of the Department's equal opportunity policies and programs. Implementation of the requirements of the Civil Rights Act of 1964, applicable Executive Orders, Department Rules and Regulations, and Secretary's memoranda are responsibilities of the Office of Equal Opportunity (OEO). The onsite review continues to be an effective means of carrying out the tasks of civil rights in USDA programs. Deficiencies in the area of program delivery to potential beneficiaries are brought to the attention of the agencies and recommendations for corrective action are included in the review reports. The Office analyzes problems which constitute barriers to the nondiscriminatory operation of the Department's programs and activities, and develops basic policy and program approaches for more effectively implementing the Department's responsibilities in equal opportunity. In addition, the office performs those functions related to responsibilities assigned to the Department of Agriculture by the Office of Federal Contract Compliance to conduct compliance reviews of all government contractors in the Commercial and Noncommercial farms, Agricultural Services, Food and Kindred Products, and

Tobacco Manufacturers industries, and parts of the wholesale and retail trade dealing with food and other agricultural commodities.

Program accomplishments during FY 1975 include the following:

Migrant Survey Program. The Office began conducting a Migrant Survey Program whose objectives are to determine the extent of USDA program delivery to migrant farmworkers, to identify problems migrants experience in securing benefits and services, and to recommend remedial actions. Survey sites are in areas of the country where there are large concentrations of migrant workers. Onsite reviews of the major agencies with program benefits for migrants, the Food and Nutrition Service (food stamps) and the Farmers Home Administration (housing loans), have shown a need for greater outreach efforts by these agencies. A mid-Survey report will be completed in October 1975, detailing findings and recommendations relative to program distribution to migrant workers.

USDA Indian Desk. An Indian Desk was established during FY 1975 in an effort to broaden communication between Indian Tribes and the Department and to improve the delivery of services to eligible Indians and tribal groups. Representatives of six major departmental agencies have joined with the OEO Indian Desk to form a USDA Indian Task Force to identify the needs of Indians and determine the actual status of USDA program delivery. Four pilot surveys of selected Indian Tribes and reservations were made to identify needs which could be supplied through USDA programs, and ways and means of making these available. The Survey objectives were successfully fulfilled. The Indian Desk has arranged and coordinated numerous contacts between Indians and agency people to discuss proposed projects and has sponsored an ongoing relationship between the Indian communities and local USDA agencies. A brochure entitled "USDA Programs of Interest to American Indians" was developed. It provides specific information about all USDA programs which are available and how to apply for each. Copies of this brochure were sent to all Tribal Councils, Bureau of Indian Affairs Area and field offices, American Indian organizations, and Indian Desks of other departments within the Federal Government.

Compliance Reviews of Forest Service Programs. Civil rights compliance reviews of Forest Service programs have been started and are now directed toward National Forests. The Forest Service has reorganized with a larger and stronger civil rights staff. This staff will expand Title VI compliance activities with the help of the Compliance and Enforcement Division. They have already been advised that civil rights directives from the National Office and increased outreach by field personnel are necessary to assure equal opportunity in its programs.

Program Planning and Evaluation. During FY 1975, 29 program evaluation reports based on participation data submitted by agencies were prepared. In these reports, participation by ethnic groups was compared with eligible groups and with white participation. Inequities uncovered by these analyses were brought to the immediate attention of program managers for corrective action.

Other major activities included the preparation of proposals for: (1) an equal housing opportunity program for USDA and a USDA/HUD Memorandum of Agreement, (2) sex discrimination regulations for the Department and (3) Departmental policy regarding representation of minorities and women on agricultural boards and committees.

Rural Minority Business Assistance. The Department's procurement functions and its delivery of other business services is highly decentralized to the regional, state and local levels. For this reason, the Rural Minority Business Assistance Division (RMBAD), was established in November 1974. The responsibility of this new division is to coordinate and monitor the minority business programs of the USDA agencies to ensure maximum impact on minority businesses throughout the country.

During FY 1975, meetings were held with 16 different minority firms relative to USDA contract opportunities. In addition, 22 letters of inquiry from minority firms were handled.

Other major activities included: (1) participation in regional USDA agency conferences of procurement officials to promote and render assistance in the Minority Business Enterprise Program; (2) development and distribution of a handbook to assist USDA procuring offices in fostering 8(a) and competitive procurement awards; (3) cooperation with Office of Minority Business Enterprise and Small Business Administration on matters relating to the Minority Business Enterprise Program; and (4) participation in interagency task groups.

Contract Compliance. During calendar year 1974, the Contract Compliance Division (CCD) conducted 404 onsite and desk reviews in all of the Standard Industrial Classifications (SIC). This figure includes 46 construction and 14 Rural Electrification Administration (REA) onsite reviews. These reviews affected 116,667 employees of whom, 24,586 were minority group persons and 33,352 were females. The majority of the reviews were in SIC-20, food and kindred products, which contain 86.6 percent of the total supply facilities selected for review. Reviews were made in each of the industries represented in the food and kindred products group. In addition, 24 preaward reviews were made at facilities bidding for Government contracts of \$1 million or more; 171 initial reviews were conducted; 158 followup reviews; and 45 desk reviews. Six complaint reviews were also conducted during this period.

As a direct result of the onsite and desk review activities, contractors established 12-month goals and timetables in their Affirmative Action Programs which projected minority hires of 4,027, an average of 11 new hires at each of the 358 reviewed facilities projecting goals. Of the projected minority hires, 497 or 12.4 percent were in the white-collar group with a greater number being projected for hire in the sales, officials and managers, and office and clerical categories. Minority hire projections into blue-collar jobs were also significant - totaling 3,530 or 87.7 percent. Projected minority promotions totaled 591.

Female hires were projected at 4,817 - an average of 13 new hires at each of the 358 facilities projecting goals. Of the projected female hires, 1,363 or 28.3 percent were in the white-collar group, with the greatest number in the office and clerical, sales, and officials and managers categories. An estimated 3,454 females were projected for hire in the blue-collar jobs. A total of 950 promotions were projected for the year among female employees.

The Audit Review Group, established in July 1974, processed 166 reviews by June 30, 1975. This group of senior equal opportunity specialists selects a statistical sampling of contractors reviewed in prior years; evaluates EEO progress; and measures compliance with current rules and regulations.

The following are examples of specific contract compliance reviews conducted by the Office during FY 1975:

- A review was conducted at Superior Farming Company, Bakersfield, California, in February 1975, and a show cause notice was issued March 4, 1975. After conciliation with the Office, the company submitted an acceptable Affirmative Action Program. In the program, the company

projected 2,402 minority hires and promotions, and 1,037 female hires and promotions.

- A complaint review was conducted at Webers Bakery, Glendale, California, from September 26 through October 4, 1974. The review was based on the complaint that a black transport driver was terminated from his job because of his race. Subsequent to the review and after conciliation, the company reinstated the man to his former job with back pay and seniority.
- During January 1975, reviews were conducted at REA financed electric cooperatives located at Greenwood, Hollandale, and McComb, Mississippi. Racially segregated restrooms were found at all three. The restrooms were immediately integrated as the result of the reviews.
- As the result of compliance reviews conducted at Carnation Company, Oakland, California, and La Victoria Foods, Rosemead, California, a total of \$41,289.13 in back pay was shared by 72 employees identified as members of an "affected class." The back pay settlements averaged \$573.46 per employee.

STATUS OF PROGRAM

INFORMATION SERVICES

The Office of Communication is the communications link between the Department of Agriculture and farmers, organizations, and institutions interested in agriculture, consumers, and the public at large. The Office provides a service to the Department and its constituent agencies--and to ultimate users of agricultural information--by disseminating results of agricultural research and marketing, of trends in agricultural programs and policies, and of other equally pertinent subjects that are essential to carrying on the work of the Department. The Office of Communication coordinates all information work in the Department; reviews for final clearance all information materials released to the public; and coordinates agricultural information on activities with those of other Federal and State agencies.

PUBLICATIONS

<u>PUBLICATIONS REVIEWED.</u>	<u>Fiscal Year</u>	
	1974	1975
New and revised manuscripts reviewed editorially for GPO printing.....	729 ^{1/}	726 ^{2/}
Slight revisions and reprints reviewed (GPO)....	247	314
Manuscripts reviewed for duplicating or printing at Department Plant.....	190	167
Total Number of Reviews.....	1,166	1,207

PRINTING

Printing through Main GPO or GPO Regions

New and revised publications to printer.....	691 ^{1/}	672 ^{2/}
Slight revisions and reprints to printer.....	247	314
Other printing orders written and placed.....	2,955	3,073

Printing other than at Main GPO and Regions^{3/}

Miscellaneous orders through Department Service Office (DSO).....	--	457
Miscellaneous orders through USDA Plant.....	--	1,771
Total printing orders.....	3,893	6,287

^{1/}Includes 200 major periodicals

^{2/}Includes 216 major periodicals

^{3/}Former OMS orders now handled by COMM

PUBLICATIONS DISTRIBUTED. Distribution of popular publications decreased in FY 1975 by approximately 2.4 million copies, to 6.5 million. Increased printing costs were largely responsible for the fact that 1.6 million fewer copies could be printed from the Printing Limitation (Reprint) Fund. This decrease in popular publications was offset by an increase in the quantity of other publications produced, particularly by a printing of 4 million copies of "What You Need To Know About Disaster Payments." As a result, the overall distribution for publications of all types was 1.3 million below the FY 1974 figure, for a total distribution of 43.2 million in FY 1975.

	<u>Popular^{4/}</u>		<u>Total</u>	
	<u>Fiscal Year</u>		<u>Fiscal Year</u>	
	1974	1975	1974	1975
	(number of copies in millions)			
Total stocks at start of year	7.4	7.1	26.8	20.9
New publications printed	.9	.3	16.7	16.6
Reprints printed	<u>7.7</u>	<u>6.1</u>	<u>18.8</u>	<u>28.6</u>
Returned by SupDocs (Loan)	--	.1	--	.1
Total available for distribution	16.0	13.6	62.3	66.2
Stocks at end of year	<u>7.0</u>	<u>7.0</u>	<u>17.6</u>	<u>22.7</u>
Sub-total	9.0	6.6	44.7	43.5
Stocks disposed of	<u>.1</u>	<u>.1</u>	<u>.2</u>	<u>.3</u>
Total actually distributed	8.9	6.5	44.5	43.2

^{4/} Farmers' Bulletins, Home and Garden Bulletins, Leaflets

YEARBOOK REPRINTED. A commercial publisher reprinted the 1974 Yearbook "Shopper's Guide," in paperback form, for sales in drugstores, supermarkets, and other retail establishments. This greatly increases the number of consumers benefitting from information contained in the book. The Superintendent of Documents, U. S. Government Printing Office, has sold 24,000 copies of the official hardcover edition. When SupDocs sales are added to the Congressional and Departmental copies of the Yearbook, total distribution of the hardcover edition so far is 274,126.

PRESS DIVISION. Public and press interest remains high in foreign grain sales, food prices and food supplies. Press Division receives an average of 150 calls a day from the news media and public, checking on new developments or to get more information about news items. To get news out while it is still news and beat the "mail lag," Press Division initiated a new "mailgram" service to the state agricultural or extension editor in each state. Mailgrams of 150 to 250 words which summarize the Department's news highlights are sent twice a week to the editors. Mailgrams are sent by wire overnight to cities where they are to be issued, then they are put in the mail for delivery the next morning. This is an exclusive service to the state editors, who then relay the news to newspapers, use it in radio broadcasts, and duplicate the information for distribution to key people in their universities. Press Division still releases about 4,000 news releases, speeches and reports a year, and each day tapes the Department's news highlights so the press may call the Department (202-447-2545) and get highlights of the latest news announcements.

Minority media -- mainly Spanish and Black, are serviced with news features on Department projects and services. Number of outlets totals 239. Monthly newsletter, "Agricultural Briefs," continues to Black-oriented newspapers and magazines.

Farm Paper service -- Because of renewed interest in agriculture, the weekly Farm Paper Letter, now in its 33rd year, goes to a record 723 domestic outlets. Same-day service continues for editors and reporters writing or phoning for special assistance with news or features on USDA activities. FPL also goes to agricultural attaches in 40 embassies throughout the world, is translated into both French and German at the embassy in Paris.

Food and Home Notes -- weekly now goes to 453 press, radio and TV writers, and 3,085 educators, home economists and nutritionists, plus nearly 2,500 Extension Service agents and writers with media contacts. Requests for information on "synthetic" foods, such as soybean meat additives, food canning or freezing methods, and food safety has been high. Also of note has been a step-up in telephone inquiries.

RADIO AND TELEVISION. For a variety of reasons there has been a surge of media interest in economics news embracing such things as the food supply, food prices, exports, cost of living, crop production reports, and supplies on hand. Requests from networks and individual stations have increased due to these interests.

While the Radio and Television Division has not added any ongoing new services during the past year, the content of regular services has grown as has distribution. The division continues to supply approximately 2400 reels of radio material each week to requesting radio stations (the tapes are returned for repeated reuse). The radio spot news service is in its seventh year of operation and continues to accommodate from 50 to 100 calls from radio stations per day, depending upon topics in the news.

The Department's weekly half hour television program "Across the Fence," and the daily 4 minute program "Down to Earth" produced in cooperation with station WRC-TV, Washington, have gained in coverage, and continue to be an important outlet of useful information for agriculturists and consumers.

Film clips and short film features for TV stations on such topics as food safety, consumer information of many kinds, pesticide safety, the results of agricultural research, the Department's food and nutrition programs, as well as radio spot announcements on these and related topics, are produced throughout the year for distribution to broadcasting stations, which air them many times.

SPECIAL REPORTS DIVISION. The farmer, food prices, the importance of foreign trade, the world food situation, U.S. food supplies and their impact on the national economy all received special emphasis during the year. The division developed in-depth explanations for the general public of the relation between prices, foreign and domestic demand, and farm production. A key part of the operation was national distribution of a new series of leaflets on agricultural exports and the world food situation and an educational program for high school students.

The Farmer's Contribution to the National Economy. New educational program was launched to promote better understanding of the importance of agriculture, while maintaining the more important on-going information project in this area.

From the Earth to Your Table. One of the principal new activities of the division this year was the development and distribution of an educational activity program for high school students. "From the Earth to Your Table," an activity master book was distributed to every high school in the nation. It consists of 6 reproducible lesson plans with teacher guides. The lessons cover: farm production, farm costs, the cost of food in this country, food prices, marketing costs, and the role of farm exports in strengthening the national economy. The program has been praised by teachers, both for its content and the manner of treatment. Distribution costs for the program work out to about 1 to 2 cents per student reached, depending on the number of copies reproduced. An evaluation of the program is planned. Further educational programs will be based on the findings of this evaluation survey of 1,000 selected urban schools.

Real Facts About Food. This booklet continues to be the Department's principal popular booklet on food prices, farm production, and the farmer's contribution to consumer well-being. More than a quarter of a million copies of the current edition have been distributed since it was published in the summer of 1974. Contents have been widely reprinted in the press and have been used in all other information media. The public continues to request the booklet at a rate of nearly 400 copies per week.

The Farmer's Contribution to Better Nutrition. The farmer's fundamental contribution to national well-being is the country's unparalleled food supply. A number of information projects were initiated or expanded during the year, projects aimed at providing the public with a better idea of the source and value of its food supply. Two of the projects represented a new effort to reach young people.

The Molly Moo Series. A series of four leaflets, one related to each of the four food groups, were produced as an extension of the basic food price information contained in "The Real Facts About Food." Some 75,000 sets were developed in cooperation with the Consumer Information Center which handles distribution for the project. Using farm animals to appeal to very young children, the leaflets explain the importance of good nutrition to children and tells them something about the farmer who produces their food. The series has been especially well received by nutrition experts, teachers, and others working with children.

The Thing the Professor Forgot. In order to help fulfill the Department's commitment to improved nutrition among the young, the Office joined with the General Mills Corp. to bring the story of good nutrition to millions of children the Department could not easily reach through its customary information channels. At the Department's request, General Mills has put a complete nutrition message for children on the backs of 15 million cereal boxes. The company is promoting a special nutrition storybook on an additional 25 million cereal boxes. The booklet itself was written and designed by General Mills from Department nutritional information and was prepared under the close supervision of the Department. The company estimates the nutrition message alone will generate over 100 million viewer impressions during the course of the program. Further use of the storybook content which was developed for the Department, is contemplated for radio, television and other information media.

Home Canning and Food Safety. An information kit in support of a Department-wide program on home canning and food safety was put together. Eleven thousand "Keep it Hot, Keep it Cold, Keep it Safe" kits were distributed to food editors and consumer representatives. The kits contained information on safe home canning and the safe handling of food in the home. Distribution was made through the Consumer Affairs office or directly in response to individual requests. Supporting items in the campaign were a picture series distributed to weeklies; a slide set and filmstrip on home canning safety; three TV spots for the networks; fifteen radio scripts mailed to 900 stations; slide sets and scripts to 180 TV stations during peak canning months. The kit was produced in cooperation with the Animal and Plant Health Inspection Service, Agricultural Research Service, and the Extension Service.

Reaching More People Through National Publications. To better inform more people about the benefits of agriculture to the general economy, the office reestablished a liaison service for national magazines in May 1975. The focus is on (1) providing help for editors and writers seeking answers to questions about agriculture, (2) suggesting ideas for stories of national interest, and (3) providing quick back-up information and story sources for major magazines. The primary audience is non-farm people.

International Trade. Greater national and international attention was focused on U.S. agricultural conditions in 1975 than ever before. American consumers were concerned with the impact of farm exports on domestic food prices; overseas markets were concerned about the availability of grain and other farm commodities;

the media devoted considerable space to "imminent" world famine and to the ability of the U.S. to cope with it. The Office's expanded international information program pushed hard to provide support in all three areas, stressing (1) the importance of farm exports to the national economy, (2) the reliability and efficiency of American farmers, and (3) the ability of farmers to meet domestic and international food commitments.

Special Projects. Three projects were aimed directly at the general public and the media. One involved the development and distribution of a package of 5 booklets keyed to the single theme, "U.S. International Trade: Its Growing Importance to the National Economy." Each booklet emphasized a specific point--how farm exports help the American consumer; the impact of U.S. food aid on the world; the extent to which U.S. farm exports have grown; why U.S. farm exports have grown; and who America's major overseas customers are. The booklets were made available to representatives attending the World Food Conference at Rome in November 1974, and were later distributed to the media. In all, the Office filled requests for 50,000 sets. A second project involved the development and distribution of 10,000 information kits for World Trade Week. The kits included several fact sheets detailing the importance of U.S. farm exports and a 3-color poster with the theme "Farm Exports Make Jobs." Farm organizations, agribusiness groups and agriculture field personnel used the kits extensively for speeches, radio and television appearances, and press conferences. In an effort to offset widespread misinformation about the world food situation, the Office prepared a pocket-sized 20-page leaflet, "Is the World Facing Starvation?" which evoked considerable news and editorial coverage. More than 90,000 copies were distributed to church groups, high schools and colleges, and Congressional offices. Most of the distribution was by request.

International Radio Program. Continuing a project launched 3 years ago, the international information officer appeared on 57 Voice of America Breakfast Shows to respond to questions submitted by listeners in foreign countries. Reportedly one of the most popular of all international programs, the VOA Breakfast Show drew agricultural inquiries from 24 different countries.

Servicing Foreign Readers. Material was provided for 54 feature stories to the U.S. Information Agency, Voice of America and to correspondents representing the foreign press. Tour schedules and background briefings were arranged for media representatives from Japan, Italy, Canada, Switzerland, England, Spain, Poland, Sweden, West Germany, and Australia. In addition, mini-briefings on U.S. trade policy were provided newsmen representing France, India, Spain, England, Sweden, Indonesia, Finland, Korea, and Japan.

The Environment and Energy Conservation. A farm-fuel and energy conservation effort was conducted in the first half of 1975. The project was a follow-up to last year's nationwide information program on energy conservation. Press kits prepared and distributed this year placed more emphasis on general consumer fuel conservation since last year's kit concentrated on farming operations. The Savenergy 1975 Kits were distributed through agency outlets and in response to individual requests. In all 12,500 copies of the kit were distributed nationwide.

Pesticides. Special Reports continues to review all pesticides manuscripts produced in the agencies prior to their publication or reprinting. Special Reports plans programs to inform pesticide users nationwide of safety measures to follow in purchasing, applying and storing pesticides. This is done primarily through the production and distribution of 3 short TV spots which are used as public service spots by the networks throughout the year.

Mini Outlook Conference. In August 1975, USDA held a Special Briefing on Food Supplies and Food Prices. Special Reports helped with the arrangements, including invitations to business leaders and others. After the special briefing 8,000 information kits were mailed to individuals and organizations throughout the nation.

Working with Consumer Groups. Work was continued with consumer groups and other organizations, furnishing information and publications on consumer activities of the Department and providing speakers and program planning assistance. An example of this work was a series of presentations on USDA consumer programs and materials made at the National Conference of State and Local Consumer Affairs Directors held in National Conference of State and Local Consumer Affairs Directors held in Milwaukee; at a consumer seminar co-sponsored by FDA and Purdue University for graduate students (primarily consumer education and business education teachers) held in Chicago and at the National Consumer Education Conference at the University of Northern Illinois, DeKalb. Among other groups with which the staff worked were the American Association of Retired Persons, American Council on Consumer Interest, Public Citizens Visitors Center, National Safety Council, American Red Cross, General Federation of Women's Clubs, National Urban League, Governor's Council (Virginia) on Consumer Education, American Bankers Association, Louisville (Ky.) Office of Consumer Affairs, New York Attorney General's Office of Consumer Education.

Consumer Mailing List. In order to provide consumers with more immediate access to Department programs, a mailing list was established for consumer groups. The list is used for all press releases or announcements inviting comments from consumers on proposed regulations or changes in regulations. Currently, some 300 names are on the list.

Food Preview. The Department continued distribution of "Food Preview," a quarterly forecast of food supplies and costs. "Food Preview" provides the general public with an understanding of the natural and economic forces behind changes in food supplies and prices. The "Preview" is sent to consumer groups, teachers, and consumer publications. In addition, requests for multiple copies were received from libraries, educational institutions, and consumer education groups. It has been widely used by such groups as the Office of Consumer Affairs, American Council on Consumer Interests, and most state consumer offices; media and syndicated columnists.

Service: USDA's Report To Consumers. "Service" continued to be mailed to more than 5500 readers by request only. Recipients include consumer writers and editors; officers in women's clubs; civic, consumer, youth, and labor organizations; trade associations; industry; consumer educators; and home economists. "Service" stories were reprinted or used as sources of stories in such publications as Family Circle, Farm Journal, Consumer Newsweek, New York Times, National Star, Milwaukee Sentinel, National Observer, Washington Star and Washington Post. They also have been used by consumer programs on television such as WMAL-TV, Washington, D.C.; WHO-TV, Des Moines; KTVU-TV, Oakland, Calif.; Maryland Public Broadcasting's "Consumer Survival Kit."

Working With Federal And Industry Groups. Ongoing information and program assistance to a number of Federal agencies and industry groups was maintained. Among some of these activities was providing a manned consumer information exhibit and program participation at the National Conference of State and Local Consumer Affairs officials sponsored by the Office of Consumer Affairs; furnished information and manuscript review for a consumer education catalog and bibliography produced by the United Fresh Fruit and Vegetable Association; and provided materials and program assistance for more than 30 seminars for home economists sponsored by Good Housekeeping magazine.

PHOTOGRAPHY DIVISION. During the year, seven slide sets were produced. "What Farm Exports Mean to You," explains the benefits of agricultural exports to industrial workers and consumers. Other slide sets released in 1975 help explain the world food situation. A total of 3,516 slide sets and 2,825 film-strips were sold during FY 1975. "Energy--Use It Wisely Around the Home" was one of particular interest.

Twelve picture stories were released, treating such subjects as home canning and agricultural mechanization. Requests from the news media and the public for pictures from the USDA current picture files resulted in our sending out 23,409 prints in response to 2,623 requests.

MOTION PICTURE DIVISION. The production of shorter, less costly films again increased. This continues the trend, established in FY 73, away from the production of feature-length information films.

<u>Running Time</u>	<u>FY-73</u>	<u>FY-74</u>	<u>FY-75</u>
30-60 minutes	1	0	1
15-30 minutes	4	2	3
7-15 minutes	1	2	3
2-7 minutes	10	14	10
Under 2 minutes	30	34	39

DESIGN DIVISION. The 2,024 jobs processed during the year ranged in complexity from assisting agencies develop communication plans to servicing the agencies with miscellaneous graphics production. Major program areas serviced were agricultural research, animal and plant health inspection, economic research, food and nutrition and forestry.

In response to the President's directive to upgrade the visual aspects of communication activities, projects were initiated to develop Visual Management Systems for the department and several of its agencies. The division assisted agency information activities by encouraging more "joint venture" projects which were begun in FY 1974. A multi-agency venture was completed for the World Poultry Congress and five agencies joined together to sponsor an exhibition on Coal and the Environment during FY 1975.

Increased emphasis was given to coordinated visual efforts. Work was completed on visual coordination of identification signs for the Forest Service and the state of West Virginia, coordination of exhibits and related publications for Sawtooth National Forest and others.

We have continued to increase visual information support to field personnel of the department with the "printed exhibits" project which was started in FY 1974. "Printed Exhibits" replace larger expensive exhibits and make visual material available to more people. A total of 900 units were produced in FY 1975, an increase of 250.

WORKING CAPITAL FUND
(On obligation basis)

Obligations, 1976	\$42,452,000
Estimate, 1977	52,733,000

SUMMARY OF INCREASES AND DECREASES

	<u>1976</u>	<u>Increase or Decrease</u>	<u>1977 Estimate</u>
Supply and other central services ...	\$7,714,000	+\$1,387,000	\$9,101,000
Photocopy and microfilming services .	52,000	-2,000	50,000
Motion picture, photographic, and other visual information services .	2,750,000	-87,000	2,663,000
National Finance Center	14,692,000	+936,000	15,628,000
ADP systems	17,244,000	+8,047,000	25,291,000
Total available	<u>42,452,000</u>	<u>+10,281,000</u>	<u>52,733,000</u>

PROJECT STATEMENT

	<u>1975</u>	<u>1976 (Estimated)</u>	<u>Increases or Decreases</u>	<u>(Estimated)</u>
1. Supply and other central services	\$7,219,427	\$7,714,000	+\$1,387,000(1)	\$9,101,000
2. Photocopy and micro-filming services	23,929	52,000	-2,000(2)	50,000
3. Motion picture, photo-graphic, and other visual information services	2,944,982	2,750,000	-87,000(3)	2,663,000
4. National Finance Center:	15,637,425	14,692,000	+936,000(4)	15,628,000
5. ADP systems	19,056,494	17,244,000	+8,047,000(5)	25,291,000
Total, obligations	<u>44,882,257</u>	<u>42,452,000</u>	<u>+10,281,000</u>	<u>52,733,000</u>

EXPLANATION OF PROGRAM

The USDA Working Capital Fund was authorized in 1944 by 7 U.S.C. 2235 and is used to finance services provided to USDA agencies on a centralized basis. Under the law, only activities approved by the Director of OMB may be carried out under the fund. Centralization is recommended by the Department and approved by OMB when:

- Centralization will result in cost savings due to
 - . Economies of scale.
 - . Reduced overhead.
 - . Central cost based management.
 - . Coordination which avoids duplication of effort among agencies.
- Centralization offers other advantages such as
 - . Improved services to agencies and to the public.
 - . Availability of services to agencies who could not afford them except on a centralized basis.
 - . Ability to replace equipment on a long-term basis by including depreciation costs in rates charged to users.

The Fund received an initial appropriation of \$400,000 in 1944. Except for the working capital originally appropriated, it is financed by charging using agencies the actual costs of performing centralized services for them. The following services are performed for the agencies and financed through the Working Capital Fund:

Supply and other central services. This activity includes the following services: In the Office of Operations, (a) central supply provides for the purchase, storage, handling, issuance, packing and shipment of stationery, supplies, equipment, blank forms and miscellaneous materials; (b) mail distribution system includes operation of the USDA Post Office, and provides mail and messenger services for some agencies; (c) automated mailing list is a computerized system for maintaining address files and producing mailing labels; (d) correspondence referral system refers all mail addressed to the Secretary, the Immediate Office of the Secretary and the Department to the appropriate point within the Department for preparation of a reply, and operates a control system to assure timely handling of letters; (e) the ADP procurement unit provides Department-wide services for the procurement of computer hardware, software and related services; (f) printing plant furnishes duplicating services, including printing, reproduction, binding, addressing and mailing, and related services; (g) short order and copier stations for duplicating and copy production are located throughout the Downtown USDA complex; and (h) the composing unit produces copy for offset reproduction. In the Office of the Secretary (Office of Intergovernmental Affairs), general and common services to agencies engaged in civil defense are performed on a centralized basis. The Office of Personnel regularly conducts sessions of the Executive workshop in Agri-Dynamics, Supervisory and Managerial Strategies, Problem Solving and Decision Making and Merit System for Managers. These programs are designed to give middle managers and executives a prospective of the their agencies' relationship to other agencies in the Department of Agriculture, as well as to build managerial and executive skills. The College Study Program component of the USDA Upward Mobility Program is designed to provide an opportunity to follow a course of study at an undergraduate level which will help meet the educational requirements of professional occupational disciplines found within the Department. Also, in this Office is the Management Analysis Reporting System of computerized personnel data.

Photocopy and microfilming services. The National Agricultural Library supplies photocopy and microfilm reproductions of library materials.

Motion picture, photographic, and other visual information services. The Office of Communication plans, designs, and produces visual information materials, such as motion pictures, exhibits, art and graphics materials, and still photographic work for the Department and other Government agencies. The Office of Communication also publishes the Departmental employee periodical "USDA Newsletter".

National Finance Center. This activity in the Office of Management and Finance carries out the Department's fiscal and accounting policies, procedures and regulations; processes the Department's centralized payroll, personnel transactions, and administrative voucher payments; provides accounting control over funds of all Department agencies; serves as central contact point with commercial vendors on matters relating to payments and payments procedures; serves as central point for the Department in all external financial reporting to Treasury and other agencies; and provides management reports for all agencies of the Department.

ADP Systems. The Office of Automated Data Systems develops, installs and manages a Departmental information system and assists in the maintenance of such system to satisfy agency needs; develops an integrated computer network for use by Department agencies; and manages the total ADP resources of the Department including the operation of its data processing facilities.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$1,387,000 for Supply and Other Central Services consisting of:
 - (a) An increase of \$315,000 for GSA space rental charges.
 - (b) An increase of \$55,000 for annualization of pay cost increases effective in FY 1976.
 - (c) An increase of \$350,000 for progressive within-grade promotions and for the upgrading of current workers who are now performing at levels well above their current classification.
 - (d) An increase of \$372,000 for increased inventory and operating costs including:
 - \$233,000 for inventory costs in Central Supply;
 - \$60,000 for materials, especially paper supplies, in reproduction services;
 - \$58,000 for other operating costs such as communications and contractual services; and
 - \$21,000 for equipment rental and maintenance.
 - (e) An increase of \$274,000 to establish, stock and maintain a self-service store operation in Central Supply. This service will eliminate the necessity for filling orders one-at-a-time, prevent crisis purchases at the GSA store, increase customer service, and increase efficiency.
 - (f) An increase of \$21,000 to repair and remodel mail facilities to increase efficiency. The present incoming and outgoing mail facilities are outmoded and overcrowded. The repair and remodeling will include removing walls, repairing floors, electrical work, accoustical baffling and the installation of permanent work areas.
 - (g) An increase of \$2,000 to cover the costs of increased participation in the training program "Merit System for Managers".
- (2) A decrease of \$2,000 for operating expenses for Photocopy and Micro-filming Services.
- (3) A net decrease of \$87,000 for Motion Picture, Photographic and Other Visual Information Services consisting of:
 - (a) A decrease of \$66,000 for GSA space rental charges.
 - (b) An increase of \$18,000 for annualization of pay cost increases effective in FY 1976.
 - (c) An increase of \$4,000 to cover the increased cost of printing the Departmental periodical, "USDA".
 - (d) An increase of \$65,000 for increased inventory and operating costs including supplies, materials and other services.
 - (e) A decrease of \$108,000 for contractual services due to a reduction in outside contracts in the motion picture service.
- (4) A net increase of \$936,000 for the National Finance consisting of:
 - (a) An increase of \$161,000 for annualization of pay cost increases effective in FY 1976.

- (b) An increase of \$806,000 for increased labor costs. Over the past several years, the Department has centralized administrative payment, payroll and personnel functions to the National Finance Center in New Orleans. Payroll and personnel functions were centralized in 1963. The centralization of administrative functions was begun late in FY 1973. Through FY 1975, centralized payment systems were developed and installed for the payment of travel vouchers, travel advances, Government Bills of Lading, Government Travel Requests, commercial telephone, imprest fund, GSA FEDSTRIP, commercial utilities, GSA motor pool billings, and gasoline credit card payments. Billings and collections activities for the AMS Grain Division and APHIS Meat Inspection have also been transferred to the National Finance Center.

Administrative systems planned to be implemented by the beginning of fiscal year 1977 are:

- Major purchases
- Contracts
- Blanket purchase arrangements
- Billings between Government agencies
- Miscellaneous GAS payments, such as leases, job orders, ADP service, data transmission, etc.
- Balance of USDA billings and collections.

The development and operation of the new financial systems will require increased staffing which will cost an additional \$806,000 in labor costs in FY 1977. The following breakdown shows the volume of documents processed by the NFC:

<u>Fiscal Year</u>	<u>Annual Volume</u>	<u>Percent Increase</u>
1975	4,654,000 (Actual)	--
1976	5,717,000 (Projected)	22.8
1977	6,648,000 (Projected)	16.3

- (c) A decrease of \$250,000 due to the elimination of keypunch contracts.
- (d) An increase of \$119,000 for operating costs including:
- \$50,000 for postage;
 - \$25,000 for FTS charges;
 - \$25,000 for microfilm and reproduction expenses; and
 - \$19,000 for other operating expenses.
- (e) An increase of \$100,000 for consulting services related to the Centralized Accounting System.
- (5) An increase of \$8,047,000 for ADP Systems consisting of:
- (a) A decrease of \$46,000 for GSA space rental charges
- (b) An increase of \$117,000 for annualization of pay cost increases effective in FY 1976
- (c) An increase of \$1,500,000 for one-time site preparation costs in the Washington Computer Center. The WCC's present location is inadequate and overcrowded. The distance between the floor and ceiling is too small to allow for proper air circulation. The computers generate a great deal of heat and need to be in space that is well cooled and well ventilated to avoid being damaged. Also lack of adequate storage space has necessitated storing tapes on the computer floor, thereby constituting a security risk,

- (d) An increase of \$1,500,000 for rental of equipment at the New Orleans, Ft. Collins, and St. Louis Computer Centers. In order to handle the increased volume of work at these centers, the existing computer hardware is being replaced by later generation equipment with higher rental charges. This substitution is an interim upgrading of these facilities.
- (e) An increase of \$100,000 for increased labor and operating costs for the OADS headquarters staff in Washington, D. C.
- (f) An increase of \$4,876,000 consistent with the amount requested in FY 1976 in order to restore computer centers to Working Capital Fund financing which were shifted to agencies after the Congress placed a limitation on obligations in the 1976 Appropriations Act.

OFFICE OF THE INSPECTOR GENERAL

Purpose Statement

The Offices of Audit and Investigation were established by Secretary's Memorandum No. 1836, dated January 9, 1974. Prior to this date they were combined in the Office of the Inspector General, an office established by Secretary's Memorandum No. 1503 dated June 25, 1962 and No. 1524 dated December 21, 1962, to conduct internal audit and investigation of Departmental programs and to provide personal security to the Secretary.

The Office of Audit reports to the Assistant Secretary for Administration and is responsible for internal audit of the Department's programs. The Office of Investigation is responsible to the Secretary for investigative activities of the Department's programs worldwide and provides him with personal security. OI also has responsibility for protecting USDA personnel, facilities and equipment throughout the Washington, D.C. complex. Both agencies work to assure compliance with existing laws, policies, regulations and programs of the Department's agencies, and to provide appropriate officials with the means for prompt corrective action where deviations have occurred. The scope of audit and investigative activities is large and includes administrative, program and criminal matters. Their activities are coordinated, when appropriate, with various audit and investigative agencies of the executive and legislative branches of the Government.

The Offices of Audit and Investigation each have regional offices colocated in the following cities: Hyattsville, Maryland; Atlanta, Georgia; Chicago, Illinois; Temple, Texas; Kansas City, Missouri; and San Francisco, California. The Office of Investigation also has a regional office in New York City. As of October 1975, the Office of Audit's employment was 486, including 57 in Headquarters, Washington, and 429 in the field.

The Office of Investigation had total employment of 328, with 56 in Headquarters, Washington, and 272 in the field.

Available Funds and Man-Years
1975 and Estimated, 1976 and 1977

	Actual 1975		Estimated Available, 1976		1977 Budget Estimate	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Office of the Inspector General	\$21,506,000	832	a/ b/ \$23,218,000	862	\$26,568,000	945
Allotment to the Office of the Secretary	-302,459	-12	- -	- -	- -	- -
Net	21,203,541	820	23,218,000	862	26,568,000	945
Obligations under other USDA appropriations:						
Food and Nutrition Service for purchase of food stamp coupons from local banks needed in investigation activities	750	- -	1,200	- -	1,200	- -
Agricultural Marketing Service for quarterly review of the performance of supervisory grain inspectors	- -	- -	100,000	4	100,000	4
Total, Other USDA appropriations	750	- -	101,200	4	101,200	4
Total, Agriculture appropriations	21,204,291	820	23,319,200	866	26,669,200	949
Other Federal Funds	54,203	2	15,000	1	15,000	1
Non-Federal Funds	252,028	10	208,800	8	208,800	8
Total, Office of the Inspector General	21,510,522	832	23,543,000	875	26,893,000	958

End-of-Year Employment:	1975 Actual	1976 Estimated	1977 Estimated
Permanent full-time	802	833	833
Other	13	15	15
Total	<u>815</u>	<u>848</u>	<u>848</u>

a/ Excludes proposed supplementals of \$637,000 and \$372,000.

b/ Excludes 13 man-years associated with proposed supplemental.

OFFICE OF THE INSPECTOR GENERAL

	Office of the Inspector General	Transfer from Food and Nutrition Service	Total
Appropriation Act, 1976	\$16,455,000	\$6,094,000	\$22,549,000
Budget Estimate, 1977	<u>18,636,000</u>	<u>7,932,000</u>	<u>26,568,000</u>
Increase in Appropriation	<u>+2,181,000</u>	<u>+1,838,000</u>	<u>+4,019,000</u>
Adjustments in 1976:			
Appropriation Act, 1976	16,455,000	6,094,000	22,549,000
Transfer from Office of the Secretary <u>a/</u>	+40,000	- -	+40,000
1976 supplemental appropriations:			
Pay costs	+460,000	+169,000	+629,000
Adjusted base for 1977 ...	<u>16,955,000</u>	<u>6,263,000</u>	<u>23,218,000</u>
Budget Estimate, 1977	<u>18,636,000</u>	<u>7,932,000</u>	<u>26,568,000</u>
Increase over adjusted 1976	<u>+1,681,000</u>	<u>+1,669,000</u>	<u>+3,350,000</u>

a/ Pursuant to Secretary's Memorandum No. 1876, approved July 25, 1975, activities relating to the audit of program results were transferred from the Office of Planning and Evaluation. Actual transfer of funds of \$36,000 was made in FY 1976. On a comparable basis, the full annual cost of these activities is \$40,000.

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	1976	Increase or Decrease	1977 Estimate
Audit	\$13,234,000 <u>a/</u>	+\$1,888,000	\$15,122,000
Investigation	8,710,000 <u>b/</u>	+1,013,000	9,723,000
GSA space rental costs	645,000	+202,000	847,000
Annualization of the pay cost increase effective in FY 1976	<u>629,000</u>	<u>+247,000</u>	<u>876,000</u>
Total	<u>23,218,000</u>	<u>+3,350,000</u>	<u>26,568,000</u>

a/ Excludes proposed supplemental of \$504,000.

b/ Excludes proposed supplementals of \$133,000 and \$372,000.

PROJECT STATEMENT
(On basis of adjusted appropriation)

	: 1975	: 1976	: Increases	: 1977
		:(Estimated)		:(Estimated)
1. Audit	\$13,470,135:	\$14,024,000:	+\$2,158,000(1):	\$16,182,000
2. Investigation	7,955,929:	9,194,000:	+1,192,000(2):	10,386,000
Unobligated balance	79,936:	- -:	- -:	- -
Total available or estimate ..	21,506,000:	23,218,000:	+3,350,000	26,568,000
Transfer from Office of the Secretary	-40,000:	-40,000:		
Proposed supplemental for pay : increase	- -:	-629,000:		
Total appropriation	21,466,000:	22,549,000:		

EXPLANATION OF PROGRAM

AUDIT. The Office of Audit is responsible for internal audit of the Department's programs. Its function is to provide the Secretary with independent and objective reviews of the Department's programs and activities. It assures prompt and appropriate corrective action in those instances where there is a deviation from established policy, regulation or law. It also coordinates its audit activities with other audit agencies of the executive and legislative branches of Government.

The Office makes essentially two types of audits:

- Cycle audits, which are performed on a recurring basis and cover all of the activities of a particular organizational entity; and
- - Program audits, which cover parts or all of entire programs on a nonrecurring basis.

Each year a schedule is prepared of the audits to be performed in the following year. The Office issued 2,833 audit reports in fiscal year 1975. An estimated 2,692 are to be issued in fiscal year 1976 and 2,538 in fiscal year 1977.

INVESTIGATION. The Office of Investigation performs all investigative activities of the Department and provides personal security to the Secretary. The Office investigates all violations of criminal statutes relating to the Department except for the limited instances where another Federal agency (usually the FBI and Secret Service) has primary jurisdiction and chooses to assert it. The Office also investigates program violations and noncriminal employee misconduct cases. Its investigation reports may support administrative actions by USDA, other Federal agencies, and State and local authorities. Legal actions that result are processed with the Justice Department and local law enforcement agencies through USDA's General Counsel. The Office coordinates its investigative activities with those of other investigative agencies of the executive and legislative branches of Government.

The workload of the Office is difficult to estimate due to the responsive nature of the activities. Investigations are generated in several ways including:

- - Complaints from the general public, some of which are referred to the Office by Members of Congress;
- - Requests from the Secretary;
- - Questions raised by audit reports; and
- - Requests from Department agencies (e.g. food stamp investigations requested by the Food and Nutrition Service).

The Office investigated 5,184 cases in fiscal year 1975. An estimated 5,450 are to be investigated in fiscal year 1976, and 6,300 in fiscal year 1977.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$2,158,000 for audit activities consisting of:
- (a) An increase of \$146,000 for annualization of pay increases effective in 1976.
 - (b) An increase of \$124,000 for space rental costs pursuant to P. L. 92-313.
 - (c) An increase of \$504,000 for increased travel costs resulting from the enactment of P.L. 94-22.
 - (d) An increase of \$400,000 for automated data processing.

Need for Increase

When the audit function was first centralized at the Departmental level in 1962, 384 direct audit man-years were budgeted. Since that time, FmHA programs have grown from about \$750 million in loan activity to more than \$5 billion. The Food Stamp Program has grown from a \$30 million pilot project to a nationwide program costing nearly \$6 billion. The School Lunch and Special Milk Programs, then \$200 million, are now two of the Child Nutrition Programs which today are costing over \$2 billion. In spite of the growth in the size and complexity of USDA programs, only 350 direct audit man-years are budgeted in fiscal year 1976. Program growth coupled with restricted manpower resources is necessitating the development of new methods for increasing productivity per audit workday expended.

Experience has shown that computer-assisted auditing is exceptionally cost effective as it provides the ability to review and analyze vast numbers of records to an extent not possible or practical using manual techniques. It generates significant results by providing leads that can be reviewed quickly at the audit site, greatly reducing the amount of audit time usually required. The use of advanced techniques, including economic analysis, budget auditing, results auditing and statistical sampling has already shown a tremendous potential for increasing monetary benefits (savings to taxpayers).

Plan of Work

The increase of \$400,000 would cover: (1) use of the Department's computer facilities during audits of major agencies (\$260,000); (2) development, programming, rental and purchase of software packages (\$65,000); (3) technical assistance and consultants fees (\$35,000); and (4) staff training in the use of advanced audit techniques (\$40,000).

- (e) An increase of \$984,000 in the Food Stamp transfer (\$2,803,000 available in 1976).

Need for Increase

The Food Stamp Program is highly susceptible to abuse because of its nature and delivery method. Eligibility standards are determined nationally. However, State and local governments administer the program, often with inadequate funding. Authorizations to purchase food stamps and food stamps themselves require strict controls over their handling and issuance yet security and accountability continue to need strengthening.

The expansion of the program, mandated by P.L. 93-86, to all political subdivisions nationwide in the last few years has seriously strained the service the Office of Audit can provide to the Food and Nutrition Service. To illustrate: On June 30, 1972, there were 2,126 project offices participating in the Food Stamp Program, compared to 3,044 project offices participating as of February 28, 1975--an increase of 915 project offices in less than three years. Participation during the same period increased from less than 12 million to nearly 19 million persons.

Increased audit coverage by OA will also be required due to the amendment of the Food Stamp Act to provide for 50% reimbursement to States for all administrative costs. Even though FNS has required State audits of FSP fiscal operations under Part 275.8 of the FSP regulations, this requirement will not be implemented by the States for several years. Additionally, State quality control systems are not yet fully and effectively implemented.

Plan of Work

The \$984,000 requested would cover an increase in staff of 40 professionals. The Office of Audit will stratify its coverage, emphasizing reviews of those FSP project offices where large Federal dollars are spent and increase its audit coverage at the State agency and FNS Regional Office levels. The additional funds will provide OA with the manpower to staff residency offices at eight large cities to provide continuous reviews at those offices. In addition, it will permit annual audits of 100 of the larger project offices by use of statistical sampling and computer techniques.

- (2) An increase of \$1,192,000 for investigation activities consisting of:
- (a) An increase of \$101,000 for annualization of pay increases effective in 1976.
 - (b) An increase of \$78,000 for space rental costs pursuant to P.L. 92-313.
 - (c) An increase of \$300,000 in the Food Stamp transfer for overtime work.
 - (d) An increase of \$133,000 for increased travel costs resulting from the enactment of P.L. 94-22.
 - (e) An increase of \$260,000 for AMS grain investigations.

Need for Increase

During fiscal year 1975, investigations of Agricultural Marketing Service grain inspections took on a new dimension of sensitivity to the Department with the result that the Office of Investigation is shifting an increasing amount of investigative resources to AMS programs. OI issued 200 reports of investigations for AMS in fiscal year 1975 in contrast to 98 in fiscal year 1974.

During the first four months of fiscal year 1976, OI expended 14 man-years on AMS grain investigation as compared to 4.5 man-years in the same period of fiscal year 1975. OI and the FBI are currently pursuing investigations in other ports under the direction of the U. S. Attorneys in those States. There are indications that the same patterns of criminal activity and circumvention of inspection controls exist in the other ports that were established in the New Orleans investigations. These activities are placing manpower requirements on OI far in excess of current resources, and will continue through fiscal year 1977 into fiscal year 1978, at the minimum.

Plan of Work

The \$260,000 requested will fund ten special agent positions, to meet the increasing manpower demands of the AMS grain investigations.

(f) An increase of \$320,000 in the Food Stamp transfer (\$3,460,000 available in 1976).

Need for Increase

The backlog of investigations in the Food Stamp program continues to grow. In fiscal year 1974, the Office of Investigation received 3,086 requests for investigation; in fiscal year 1975 the number of requests was 4,556, an increase of nearly 50%. It is estimated that OI will receive at least 4,600 requests for investigation this fiscal year. Although the fiscal year 1975 production in the program was 3,313 cases, an increase of 30% over fiscal year 1974, the backlog of cases at the beginning of fiscal year 1976 was 2,155, nearly twice the backlog of 1,125 at the start of fiscal year 1975.

Plan of Work

The \$320,000 requested will support twelve additional special agent positions to augment our efforts in the Food Stamp program.

STATUS OF PROGRAM

OFFICE OF AUDIT

The Office of Audit (OA) is responsible for auditing all activities of the Department of Agriculture. OA reports to the Assistant Secretary for Administration. The audit service includes an independent and objective review and examination of the Department's programs and activities, and appropriate reporting to responsible officials at various management levels. Emphasis is on improved accountability for the Department's resources; increased efficiency and effectiveness in meeting program and administrative objectives; and integrity throughout the Department's programs and personnel.

Examples of OA Audit Work in Fiscal Year 1975

Some examples of the extent and nature of work performed by OA in Fiscal Year 1975 follow. In each instance the responsible agency has either completed or is in the process of taking necessary corrective action.

I. Farmers Home Administration (FmHA)

During this year, OA audited in 22 State offices and 627 County offices. We performed 27 special overviews and seven audits of National Finance Office operations. We also made a program audit of the Rural Housing Program. The following are examples of findings from these audits:

A. Rural Housing Loan Program

1. Eligibility. Our audits continued to disclose problems in subdivision eligibility and approval despite efforts by FmHA to strengthen site eligibility criteria as a result of prior audits.

About 2,600 RH loans nationwide, in excess of \$52 million, were questionable because houses were located (a) in metropolitan or nonrural areas associated with large population centers, (b) on soil not suitable for individual septic systems, or (c) in flood plains. These houses also lacked proper community services. These conditions were present in varying degrees in all States in which we audited. For example, a nationwide audit reported 235 instances in 58 counties in 23 States where individual septic systems were malfunctioning because soils were unsuitable for the systems.

FmHA is taking action to further improve site criteria and to strengthen approval procedures and control. It is delineating areas eligible for loans and is not approving further loans in areas with site irregularities until they are corrected.

2. Interest Credit. In about 200 audits there were one or more instances of improper Interest Credit Agreements. This is part of a trend continuing from previous years. We have initiated a nationwide statistical sampling to determine whether excess interest credits may be sufficient in total to warrant an extensive test of the approximately 200,000 existing Interest Credit Agreements.

3. Acquired and Abandoned Property. During calendar years 1973 and 1974, the FmHA inventory of acquired property increased several-fold. Losses from this property in 1974 more than doubled those of 1973--from \$2.7 million to \$5.75 million. Audits in 20 States disclosed that factors contributing to losses on properties included (a) untimely determination of abandonment, (b) inadequate safeguards and protection from vandalism, and (c) untimely servicing and disposition.

In Ohio, for example, 36 houses with loan balances of \$536,000, were acquired. Loss on the sale of six houses in Ohio was \$48,000.

In a county in Arkansas and a county in Virginia 34 houses valued at a total of \$570,000 were abandoned. The cost of major repairs to 17 houses in the Virginia county was \$11,000.

FmHA is improving its control of acquired and abandoned property and is devising methods for stemming the growing losses.

B. Emergency Loan Program

Data provided by loan applicants generally was not verified to other sources, and loan processing needed improvement. Audit verification disclosed excessive and questionable loan amounts because of (1) inclusion of losses that occurred outside the designated disaster period, (2) considerable misstatement of normal and disaster crop yields and acreages, (3) nonreporting of other loss benefits, and (4) use of improper methods to determine eligibility and compute loan amounts.

In Alabama, for example, of 58 loans reviewed 20--amounting to about \$365,000--were overstated. In Puerto Rico, average value of loans approved after the start of our audit there decreased by \$2,000 from average value of loans approved before the audit. Recent revisions in Agency instructions have materially strengthened loss verification and loan processing procedures.

C. Annual Reviews and Followup

In 180 audits we noted one or more instances of inadequate annual reviews and followup on cases deemed eligible for graduation. We also noted in 285 audits similar situations involving delinquent borrowers. The inadequacies have been recurring problems in the past, and are now assuming greater significance. For example, the number of delinquent borrowers increased about 135 percent from about 74,600 in FY 1974 to 177,300 in FY 1975. In one country in Maine control was inadequate in about 260 seriously delinquent farm program accounts. Outstanding loan balances for 61 accounts sampled were \$2.7 million. We plan to determine nationwide and in greater depth the extent and import of the problem, and what additional action FmHA should take to improve upon corrective measures now being taken.

D. Misappropriation of Funds

A combined audit and investigation effort disclosed a shortage of about \$131,842 in borrower loan funds in Waynesboro, Mississippi. The former Assistant County Supervisor was responsible. Improper withdrawals, deposits, fictitious entries, and check forgeries to supervised bank accounts had gone undetected for about three years. Our findings emphasized the continuing FmHA need for closer supervision and improved control of supervised bank accounts.

E. FmHA Finance Office

Our audits disclosed a need for improved internal control and more effective utilization of computer facilities for management purposes. Unusual situations included (1) loss of about \$2.6 million in offset interest credit during 1975 because dates of deposits were improperly determined, (2) nondevelopment and non-use of standards in ADP system design that contributed to a \$64 million understatement of Guaranteed Loans closed in a financial statement, (3) excess lender subsidies of at least \$47,000 for Guaranteed Farm Loans occurred because procedures did not provide for the use of local interest rates when lower than the FmHA ceiling, and (4) potential annual average savings of about \$109,000 by consolidating loan docket forms and eliminating needless revisions, and by better utilizing the computer for this purpose.

II. Food and Nutrition Service (FNS)

A. Special Summer Food Service Program

This extension of the school lunch program is difficult to administer because meals are served to children on playgrounds and other recreation sites during summer vacation months. Our audits of 48 sponsors disclosed that improvements are needed in organization and control of site operations. Sponsors did not visit sites prior to approval to determine sufficiency of space, personnel and equipment to accommodate the estimated number of participants. Subsequently, sponsors did not sufficiently monitor and control site operations. The audits found that meals were served to adults, bulk quantities of meals were taken off sites, excessive meals were ordered, food service sites were not approved, and some food spoiled. About \$2.5 million was saved based upon observations of site operators by Office of Audit and Food and Nutrition Service monitors.

B. National School Lunch Program (NSLP)

Audits were performed at 26 State Agencies which included 270 public school districts, private schools, and child care centers. Overclaims developed in these audits amounted to about \$5.5 million. Conditions disclosed in the State Agency coordinated audits included:

(1) Ineffective procedures to detect weaknesses; (2) insufficient staff to evaluate program operations and provide needed assistance; (3) inadequate followup on correction of adverse conditions; (4) infestation or spoilage of about \$2.8 million in USDA commodities; (5) need for an action program to assure that free milk was available in participating schools; and (6) omission of refunding unexpended program funds to the U. S. Treasury. Following are examples of conditions noted at the school district level:

1. An audit of a Child Care Center found that reimbursement claims for September 1974 through April 1975 were overstated at least \$48,909 because of inadequate meal count procedures. All meals sent to day care centers from a central kitchen were claimed for reimbursement rather than the number served to children.

2. An overclaim of about \$293,000 was projected in a large city school district based upon the following: (a) an insufficient number of approved student applications to support number of free meals claimed as served; (b) inaccurate counts

of free meals served; and (c) incorrect reporting of total daily participation for both paid and free meals.

C. Food Stamp Program

1. Certification. Substantial losses to the program continued because of improper or incomplete certification and recertification processes. The Federal-State cooperative nature of the program is such that the Federal Government bears the cost of coupons issued by a State unless it can be proven that the State was grossly negligent. Problems were almost universal at the project areas audited, both large and small. For example, in one State a random sample of household certifications selected from one month's participation at 19 small offices disclosed an overall error rate of 13.4 percent, involving erroneous issuances of at least \$38,000. The error rates in large metropolitan areas were also high as evidenced by the results of our statistical projections at eight urban project areas where we found certification errors totaling \$1,091,890. Our statistical sampling applications generally covered one month's transactions at these project areas.

Typical of the errors reported were (a) gross or net income incorrectly determined, (b) excess shelter deductions incorrectly computed, (c) unallowable deductions taken to determine net income, (d) certifications not updated for changes in public assistance status, (e) household sizes incorrect, (f) collateral contacts not made on questionable cases, (g) work registration requirements not met, and (h) recertifications overdue.

Because of the rapid expansion of the Food Stamp Program in recent months, certain certification errors are to be expected. However, many of the problems noted can be attributed to a need for stronger controls such as minimum ADP controls and credit checks; improved State supervision and guidance; and prompt and decisive action taken on known improper issuances, including fraud and misrepresentation on the part of recipients. To impress upon State agencies the necessity of taking prompt corrective action on deficiencies cited in QA reports, FNS has recently billed three States for losses totaling \$1,008,000 which were computed through the use of statistical sampling techniques in our audits.

2. Control of Cash and Coupons. Controls over Authorization to Purchase (ATP) cards and food coupons had not been installed or were not functioning properly at many of the locations we visited. We reported in at least seven State agency reports and several of the large project area reports that the controls over ATP cards and food coupons were not adequate. Typical weaknesses reported were: (a) lack of accountability over blank and issued ATP cards; (b) not accounting for ATP cards returned as undeliverable; (c) inadequate inventory controls over food coupons; (d) inadequate controls over mail issuance activities; (e) inadequate security over coupons, cash and ATP's; and (f) inadequate controls over replacement ATP's to provide assurance both were not cashed.

Several instances where thefts and other misuse of ATP's and food coupons have occurred have been referred to the Office of Investigation. The requirement of prompt transmission to the

Federal Reserve Banks of cash resulting from the sales of food coupons needed to be enforced. While delays in making required deposits were not common they were noted in sufficient frequency to be the subject of three special audits and included in one audit of a State agency. These delays in depositing have cost the Government at least \$300,000 in unnecessary interest.

In addition, a special report was issued to FNS pointing out that because of delays in billing State agencies for coupon overissuances and cash shortages, large sums due the U. S. Government had accumulated over a period of several years. FNS initiated aggressive corrective action which included the billing of 42 States for more than \$22 million covering the period from 1971 through 1973. One State alone remitted \$810,000.

III. Agricultural Stabilization and Conservation Service (ASCS)

Office of Audit coverage of ASCS programs included nationwide program audits, multiState, Statewide and State office audits, county office audits, and audits of Commodity Credit Corporation operations. Following are highlights of some of those audits:

A. Emergency Programs

A special audit of the Emergency Livestock Feed Program in one State disclosed that the Government paid about \$346,000 for livestock feed approved on questionable applications. In 55 cases in five counties producers were approved for program benefits although financial statements submitted by the producers indicated they had sufficient financial means to buy livestock feed without incurring undue financial hardship. In addition, we also found that financial statements submitted by producers were inaccurate and incomplete. ASCS had directed all 22 designated counties in this State to review applications, make changes, and recover ineligible benefits.

B. Tobacco Program

1. Auction Warehouse Operations. Monetary exceptions that we found suggested the possibility for saving about \$1.3 million through elimination of tobacco leasing agreements. We recommended that legislation be sought to allow growers to market their tobacco on any marketing card as long as there is poundage available and thereby eliminate such leasing agreements.

2. Tobacco Associations. We performed a program audit of the six tobacco associations and related operations of the Tobacco Branch. We reported monetary savings of about \$104,000 as the result of recommendations to disallow association expenses claimed for fidelity bonds, employees' commuting expenses to and from work, salaries and travel for employees whose time was not devoted to price support activities, and insurance premiums paid for association directors, for which the directors were beneficiaries.

We computed about \$230,000 in possible savings if some management practices are adopted by four associations. These savings could be made by reducing overhead expenses, eliminating idle computer time, reclassifying portions of executive and clerical salaries, eliminating one tobacco inspector position, and returning certain pension funds to the Government.

C. Conservation Programs - Rural Environmental Assistance Program (REAP)

A special review of two pooling agreements in one State showed questionable cost-share payments of about \$148,000. Cost-share funds of \$125,000 had been approved on one practice and cost-shares of about \$23,000 had been paid for another practice. In these practices water pipelines were constructed purportedly for livestock; however, our audit showed the primary purpose of both practices was domestic use.

IV. Commodity Credit Corporation

A. Claims on Foreign Donation Shipments

OA auditors, together with auditors from the Agency for International Development (AID), recently examined the claims activity of the Title II, Public Law 480 Foreign Donation Program. These claims are assessed against shipping lines because of shortages, damage, or deterioration of donated commodities unloaded at foreign ports.

Delivery reports submitted to AID and forwarded to the ASCS Claims Field Office provide evidence that the commodities have been received. In a period of one year ending March 1974, the Claims Office sent AID a listing of 228 country-to-country shipments for which delivery reports had not been received. The claims could not be pressed because of their age, resulting in a loss estimated at \$8-10 million. In 1970, ASCS had sent to AID a list of 1100 shipments on which they had not received delivery reports and on which claims no longer could be made.

Deficient documentation also resulted in compromises on claims estimated at about \$2 million.

Staff levels in both ASCS and AID have agreed to corrective measures. The Administrator, ASCS, has written a letter to the Administrator, AID, citing these conditions and calling for joint actions to effect improvements.

B. CCC Loss of Interest on a Grain Sale

Interest ranging from \$3 to \$7 million was lost by CCC on a sale to a major grain exporter. The loss occurred because the sales contract contained no provision for assessment of interest in event of late payment. When the buyer actually paid late there was no billing for interest. Time administrative action could have minimized the loss.

V. International Programs

Public Law 480 Program

A. Ocean Freight Differential (OFD)

Policy and procedures used as the basis for compliance with the Cargo Preference requirements and computation of OFD's were questioned. The audit shows that if a distribution ratio between U. S. and foreign flag vessels had been closer to 50-50, potential savings in payments of OFD's during fiscal years 1972-1974 would have been at least \$6 million.

B. Rice Marketing

During FY 1974, approximately 604,000 metric tons of rice valued at \$321 million were shipped under P.L. 480, Title I, with two

export firms accounting for approximately 89 percent of the total shipped. The audit shows many suppliers are reluctant to participate in this program because of its speculative and high-risk nature. The report identified program changes that might increase supplier participation in P.L. 480 rice sales.

VI. Forest Service (FS)

A nationwide audit of FS Recreation Administration showed need to (1) take advantage of opportunities to reduce costs and maintain cleanup and maintenance standards by partial or total closure of recreational sites; (2) reduce exposure of the visiting public to potential injury and property losses by identifying, documenting, and correcting hazardous conditions at developed recreation sites, special use areas, and developed swimming sites; (3) effectively maintain the quality of potable water being provided forest visitors; and (4) improve the planning of developed and permitted recreation facilities to ensure standard, desirable and safe facilities.

The Forest Service is implementing recommendations in the audit report. Existing instructions have been emphasized; new manual instructions are being developed to clarify and provide guidance; training sessions have been held; and internal inspections are being made to assure corrective actions have been taken.

VII. Soil Conservation Service (SCS)

Office of Audit coverage of SCS programs included three nationwide program audits, one special audit, and nine State coordinated audits. The following are highlights of some of these audits.

A. Watershed Protection Program Budget Process

Our audit at the Office of Management and Finance, the SCS National Office, seven State Offices and 26 Field Offices suggested that the planning, approving and funding activities of watershed projects were not sufficiently coordinated. Until recently, watershed projects were being planned and approved at a rate which far exceeded the availability of funds to implement the programs. This caused backlogs of approved projects and distorted estimated project cost and time of completion. Estimates of project status used for budget submissions were based on historical averages rather than on more specific and accurate estimates that were available. However, historical average were updated to include current data.

Six OA recommendations were directed toward improving the operational areas mentioned above. The Agency has initiated action to improve some of the recommended areas, and is further considering other OA recommendations.

B. Watershed Protection and Flood Prevention (P.L. 566) Program

Our audit at the Agency's Headquarters Office and in six States disclosed that inability of local sponsors to timely acquire land rights has had a severe impact on the time needed to complete watershed projects. For 14 of the 24 watersheds covered by this audit, increased costs of installations and unrealized benefits of about \$20 million have occurred where land rights acquisition was delayed. Several factors contributing to these delays were sponsors' lack of funds, their reluctance to use powers of condemnation, and inexperience in dealing with land rights problems. We also found that planned land treatment was not accomplished within the installation period, which limited the Agency's ability to monitor accomplishments as compared

to the needs specified in project work plans; and, operations and maintenance of completed watersheds were not adequately controlled because Sponsors and Agency inspections were either not made or not carried through to a complete conclusion.

VIII. Animal and Plant Health Inspection Service (APHIS)

A. Veterinary Services (VS)

A nationwide audit of selected VS programs to include brucellosis eradication, tick eradication, and bird and animal quarantine operations was performed in ten States and at various Canadian and Mexican border stations.

We found that the Federal-State brucellosis eradication program, funded at a level of approximately \$28 million for fiscal year 1975, did not have the total commitment and support of segments of the cattle industry. There was a need to strengthen the program by (1) demonstrating to the industry that eradication is a worthwhile goal, (2) revising the cooperative agreements with each State to specify in more contractual language the progress and accomplishment expected for the Federal funds provided, and (3) developing master plans and objectives for each State with appropriate target dates and levels of accomplishment for achieving the certified free status goal. Also, we found in some States that the indemnity payment program was not being carried out in a manner beneficial to the total eradication effort.

The audit disclosed that the tick eradication program was not being conducted so as to fully utilize Federal, State and local resources. VS personnel, in particular, were not utilized to best advantage and at least cost.

We found numerous health and safety deficiencies at both Federal and commercially licensed quarantine facilities.

The VS concurred with our findings and informed us of numerous positive actions which will be taken to improve the brucellosis eradication program. The major thrust will be to develop sound State programs. The use of Federal quarantines will be considered where necessary to protect overall gains and accomplishments. Also, deficiencies cited in other program areas will be corrected.

B. Plant Protection and Quarantine (PP&Q)

Audits of two regions included coverage at the regional offices, at selected State and district offices under PP&Q, and at airports, seaports, and border crossing stations under Agricultural Quarantine Inspection activities.

We found that the Western Region needed to (1) establish a more effective system for evaluating the efficiency of operations, (2) make more frequent supervisory field visits to insure proper staffing and operations, and (3) provide better assurance that most plant pests were being intercepted and prevented entry from Hawaii. Similar conditions were reported for the Southeastern Region. In addition, some quarantine inspectors were not familiar with provisions for boarding ships as a per a Memorandum of Agreement with the shipping lines. Also, weak budget controls had caused overobligations of about \$40,000 for FY 1973 at the witchweed laboratories.

APHIS replies to these audits stated that PP&Q was to undergo restructuring which would correct many of the supervisory problems reported. The restructuring was to provide improved span of control for the Regional Directors and resolve staffing and workload inequities. Corrective action had been taken on certain administrative deficiencies noted in the audits.

IX. Cooperative State Research Service (CSRS)

Audits of research grants were performed at 12 universities. The audits covered CSRS's administration of research funded under the authority of P.L. 89-106, Specific Grants for Research. No adverse conditions were found at two universities. Audits at the remaining institutions disclosed various fiscal irregularities amounting to over \$525,000. Some of the problem areas found were as follows:

1. Accounting methods and procedures were not adequate to account for grant funds.
2. Financial reports did not agree with official records.
3. Charges for unauthorized activities were made against grant funds.
4. Unobligated fund balances of terminated grants had not been refunded to CSRS.
5. General purpose and research equipment had been purchased without being listed on approved budgets and/or without approval from CSRS prior to purchase.

One university had a deficiency of CSRS funds of at least \$127,575. We recommended that CSRS (1) obtain a legal determination from Office of the General Counsel as to civil or criminal actions that might be warranted, (2) ascertain the propriety of making additional advances of funds prior to determining the school's financial status, and (3) make arrangements to have liabilities repaid to the research program.

CSRS has taken these actions and, in addition, made on-site visits to the university to assure that fiscal integrity of CSRS funds is maintained and to monitor the progress this institution is making toward developing an adequate accounting system. CSRS is also in the process of securing corrective actions on the fiscal irregularities reported at other institutions.

X. Departmental Administration

Economic Analysis in Audit

The Office of Audit (OA) has expanded its use of new audit approaches to include economic analysis. Economic analysis is a systematic study of the relevant economic choices which impact on a program's effectiveness. The primary concern is with the identification of the most profitable alternative or set of alternatives.

One review consisted of an analysis of a proposal by the Office of Automated Data Systems to install an Uninterruptable Power Supply (UPS) at three computer centers based upon a study and recommendations made by a private consulting firm. The study

made by OA indicated that there were sizeable errors in the consulting firm's computations and the proposed systems could not be justified. OA made recommendations not to install the system and our recommendations were considered along with others. The planned UP's were not installed, resulting in a cost avoidance of approximately \$2.5 million based on a ten-year equipment life and expenditures for alternate systems not exceeding a 1:1 cost-benefit ratio.

Office of Audit

Obligations and Man-Years by Geographic Location
Fiscal Years 1975-1977

<u>Location</u>	<u>1975 Actual</u>		<u>1976 Estimated</u>		<u>1977 Estimated</u>	
	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>
California	\$1,765,542	69	\$1,786,600	70	\$2,018,100	77
District of Columbia	2,430,673	65	2,808,500	67	3,498,900	69
Georgia	2,054,171	77	2,064,500	78	2,363,200	86
Illinois	1,495,324	63	1,476,500	56	1,650,400	60
Maryland	2,276,604	90	2,513,200	96	2,898,500	107
Missouri	1,445,037	63	1,549,300	67	1,721,800	71
Texas	<u>1,660,325</u>	<u>69</u>	<u>1,825,400</u>	<u>69</u>	<u>2,031,100</u>	<u>72</u>
Total	13,127,676	496	14,024,000	503	16,182,000	542

OFFICE OF INVESTIGATION

OI investigates all violations of criminal statutes relating to this Department except for the limited instances where another Federal agency (basically the FBI) or Secret Service) has primary jurisdiction (and chooses to assert it). OI also investigates program violations and non-criminal employee misconduct cases.

OI investigation reports may support legal action (criminal or civil), as well as administrative action by USDA, other Federal Agencies, and State and local authorities. Federal legal action is handled by the Department of Justice based on referrals by USDA's Office of the General Counsel.

Requests for investigations from USDA agencies continued in an upward trend from about 4,600 requests in FY 1974 to about 6,200 in FY 1975. The number of investigation reports issued increased from about 4,000 in FY 1974 to about 5,200 in FY 1975.

We investigated irregularities in a wide variety of USDA programs. Some examples follow:

A. Export Grain

OI investigation of the export grain trade has expanded nationwide and into corporate headquarters of the major grain companies. About 20% of OI's total investigative resources are being utilized exclusively on these investigations. It is expected that in the coming year it will be necessary to increase our manpower on grain investigations another 10% to accomplish the mandate of the Secretary to "clean up" the export grain trade. Since mid 1974, around 60 indictments have been returned against grain companies, company officials, and licensed inspectors. Most have resulted in guilty pleas and sentencing involved fines and probation. One major grain corporation pled nolo contendere to conspiracy and received a \$10,000 fine after agreeing to institute an affirmative action program to assure that the corporation complied with all laws and regulations relating to the merchandising, inspection, grading, handling, and shipment of grain. More indictments are expected.

B. Agricultural Stabilization and Conservation Service (ASCS)

With the discontinuance or curtailment of most ASCS farm programs, we expected a sharp drop in the requests for investigations from ASCS. Although, there has been some decrease, OI received 235 requests for investigations of farm program irregularities that took place while the programs were in effect. Seventy-eight of these investigations were violations of the Tobacco Marketing Quota Regulations, one of the few remaining subsidy programs.

C. Civil Rights

Results of Civil Rights investigations cannot be measured in indictments, recoveries, and savings. The results can only be measured in the satisfaction that OI is part of USDA's commitment to eliminate discrimination against its employees and in the programs administered by the Department. Toward this end, OI conducted 151 Civil Rights investigations in FY 1975, a 50% increase over the FY 1974 total.

D. Farmers Home Administration (FmHA)

The continuing expansion of FmHA programs is reflected by a concurrent rise in requests for investigations from FmHA. During FY 1975, OI completed 624 investigations for FmHA compared to 282 in FY 1974. FmHA demands upon OI's investigative resources are now second only to the Food Stamp Program. In FY 1976, OI will also schedule an indepth survey-type inquiry, in three states, of migrant housing financed by FmHA.

E. Consumer Protection

The responsibility for insuring that the American consumer is getting the quality of meat, poultry, and other agricultural products paid for, and that the product they buy is wholesome, rests with the Department's Animal and Plant Health Inspection Service and the Agricultural Marketing Service. To assist these agencies in fulfilling their responsibility, they requested 511 investigations in FY 1975. This is 192 more than requested in FY 1974.

F. Food Stamp Program

OI experienced another substantial increase in investigations of the vastly enlarged food stamp program during FY 1975. As the program grew to encompass over 19 million recipients, the number of investigative reports issued by OI increased from about 2600 in FY 1974 to 3300 in FY 1975. Of that total, about 2700 were investigations of suspected violations by retail stores, and the remaining 600 were other suspected violations, such as fraud by recipients, thefts of coupons, and trafficking in coupons. Indictments were obtained against 270 persons as a result of OI's investigations of food stamp cases; there were 186 convictions and more than \$1 million savings to the Government. OI continues to work closely with and assist other agencies such as the U.S. Secret Service and the FBI in cases where the suspected violations fall within their respective jurisdiction.

G. Other

OI provided investigative service to REA, Forest Service, FCIC, SCS, ARS, Extension Service, and the other agencies within the Department on program matters as well as personnel type investigations involving fraud, theft, kickbacks, and other types of employee misconduct.

Office of Investigation

Obligations and Man-Years by Geographic Location Fiscal Years 1975-1977

<u>Location</u>	<u>1975 Actual</u>		<u>1976 Estimated</u>		<u>1977 Estimated</u>	
	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>
California	\$899,185	38	\$999,000	40	\$1,137,000	47
District of Columbia	1,599,031	51	1,666,000	52	1,825,000	56
Georgia	1,471,803	63	1,926,000	80	2,190,000	90
Illinois	834,441	36	944,000	38	1,074,000	44
Maryland	732,253	31	990,000	40	1,126,000	46
Missouri	780,353	33	825,000	34	938,000	39
New York	724,207	31	899,000	36	1,022,000	42
Texas	914,656	39	945,000	39	1,074,000	44
Total	7,955,929	322	9,194,000	359	10,386,000	408

OFFICE OF THE GENERAL COUNSEL

Purpose Statement

The Office of the General Counsel, prior to 1955 known as the Office of the Solicitor, was established in 1910 (70 Stat. 742) as the law office of the Department of Agriculture.

The Office provides all essential and necessary legal advice and services for the Department's ongoing programs, taking into consideration not only immediate needs but future requirements as well.

Geographic Location. The work of this office is carried out in Washington, D. C., and at sixteen field offices at the following locations:

Atlanta, Georgia
Chicago, Illinois
Milwaukee, Wisconsin
Denver, Colorado
Shawnee Mission, Kansas
Portland, Oregon
Juneau, Alaska
Ogden, Utah
San Francisco, California
Missoula, Montana
Little Rock, Arkansas
Stillwater, Oklahoma
Albuquerque, New Mexico
Harrisburg, Pennsylvania
Temple, Texas
Santurce, Puerto Rico

Available Funds and Man-Years
1975 and Estimated, 1976 and 1977

Item	Actual 1975		Estimated Available, 1976		Budget Estimate 1977	
	:Man-:		:Man-:		:Man-:	
	Amount	Years	Amount	Years	Amount	Years
Office of the General Counsel	\$8,165,000:	349	\$8,517,000:	351	\$8,730,000:	355
Obligations under other USDA appropriations:						
Salaries and Expenses, Agricultural Stabilization & Conservation Service - legal services on the conservation reserve Program	3,647	- -	- -	- -	- -	- -
Agricultural Credit Insurance Fund, Farmers Home Administration - legal services on the emergency credit loan program	51,855:	2	60,000:	4	60,000:	4
Total, other USDA appropriations ...	55,502:	2	60,000:	4	60,000:	4
Total, Agriculture appropriations ...	8,220,502:	351	8,577,000:	355	8,790,000:	359
Other Federal Funds	190,913:	4	200,000:	9	200,000:	9
Total, Office of the General Counsel	8,411,415:	355	8,777,000:	364	8,990,000:	368

	<u>1975</u> <u>Actual</u>	<u>1976</u> <u>Estimated</u>	<u>1977</u> <u>Estimated</u>
End-of-Year Employment			
Permanent full-time	344	340	340
Other	2	15	10
Total	<u>346</u>	<u>355</u>	<u>350</u>

OFFICE OF THE GENERAL COUNSEL

Appropriation Act, 1976	\$8,247,000
Budget Estimate, 1977	8,730,000
Increase in Appropriation	<u>+483,000</u>

Adjustments in 1976:

Appropriation Act, 1976	\$8,247,000
1976 Supplemental Appropriation for Pay Costs .	<u>+270,000</u>
Adjusted base for 1977	8,517,000
Budget Estimate, 1977	8,730,000
Increase over adjusted base, 1976	<u>+213,000</u>

SUMMARY OF INCREASES
(On basis of adjusted appropriation)

	<u>1976</u>	<u>Increases</u>	<u>1977 Estimate</u>
Legal services	\$7,747,000	+\$85,000	\$7,832,000
GSA space rental costs	500,000	+22,000	522,000
Annualization of the pay cost in- crease effective in FY 1976 ...	270,000	+106,000	376,000
Total available	<u>8,517,000</u>	<u>+213,000</u>	<u>8,730,000</u>

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1975	1976 (Estimated)	Increase	1977 (Estimated)
1. Legal services	\$8,019,000	\$8,517,000	+\$213,000(1)	\$8,730,000
Unobligated balance	146,000	- -	- -	- -
Total available or estimate	8,165,000	8,517,000	213,000	8,730,000
Transfer from Office of the Secretary	-55,000	- -		
Proposed supplemental for pay increase costs:	- -	-270,000		
Total, appropriation ...:	<u>8,110,000</u>	<u>8,247,000</u>		

EXPLANATION OF PROGRAM

The General Counsel, as chief law officer of the Department is responsible for providing legal services for all programs, operations, and activities of the Department. He is assisted by a Deputy General Counsel and four Assistant General Counsels, each of whom is responsible for a portion of the legal work of the Department. The functions of this office are carried out in the Washington office and in 16 field offices.

The field offices handle legal work relating to the activities of the field of the Agricultural Stabilization and Conservation Service, Commodity Credit Corporation, Farmers Home Administration, Federal Crop Insurance Corporation, Forest Service, Soil Conservation Service, and the Agricultural Stabilization and Conservation Committees. By special assignment of the General Counsel, Deputy General Counsel, or by an Assistant General Counsel, legal work relating to other programs and activities of the Department may be handled by a field office.

Legal Advice - The Office of the General Counsel issues both formal and informal opinions on legal questions arising in the administration of the Department's programs; prepares or reviews administrative rules and regulations applicable to the public; drafts proposed legislation, prepares or interprets contracts, mortgages, leases, deeds, and similar documents; prosecutes patent applications arising out of inventions by Department employees. The Office examines title to lands to be acquired by the Department or accepted as security for loans; and considers and determines claims by and against the United States arising out of the Department's activities.

Administrative Proceedings - The Department is represented by the General Counsel, in administrative proceedings for the promulgation of rules having the force and effect of law and in quasi-judicial hearings held in connection with the administration of various programs.

Civil Litigation - Civil litigation arising out of the Department's work is handled by the Department of Justice, with the Office of the General Counsel assisting in the preparation and trial of such cases. The General Counsel represents the Secretary in administrative proceedings before the Interstate Commerce Commission involving freight rates on farm commodities and in appeals from the decisions of the Commission to the courts. By special assignment, the Assistant General Counsel for Legislation, Litigation, Research and Operations represents the Department in certain classes of cases before the United States Courts of Appeals.

Criminal Litigation - Cases having criminal aspects are reviewed for the purpose of referring them to the Department of Justice.

JUSTIFICATION OF INCREASES

- (1) An increase of \$213,000 for legal services consisting of:
 - (a) An increase for GSA space rental costs of \$22,000.
 - (b) An increase for the annualization of pay cost increases effective in FY 1976 of \$106,000.
 - (c) An increase of \$85,000 for legal services for four attorney positions (\$7,747,000) available in 1976.

Need for Increase. There has been a rapid growth in legal matters for all client agencies. Agency programs have broadened over the years and now consume so much of the attorneys' time it is impossible to maintain essential levels of legal service to these agencies. Greater efficiency can be maintained with the requested increase in personnel. Additional attorneys are urgently needed in the following areas:

Community Development and Natural Resources (2 attorney positions in the field offices, \$43,000):

Natural Resources - Due in part to economic instability in the timber industry, there has been a substantial increase in the numbers of defaulted contracts, failures to complete sales, damage controversies, contract extensions, rate redeterminations, cost allowances and other contract changes. There have also been an increased number of timber sale contract appeals. As the new Board of Contract Appeals has become fully operative and increased in size, the number of appeals heard is steadily increasing, with a concomitant increase in the legal work of this office. Both the Forest Service and the Soil Conservation Service projects and

resource planning have drawn steadily increasing opposition from environmental groups. Because these groups are becoming more organized and experienced, and the public in general has become more environmentally conscious, the resulting litigation reflects an increasing level of complexity and difficulty. Our attorneys are also presiding over public hearings throughout the country, as more widespread public participation is invited, a good example of which is the 14 major hearings scheduled in implementation of the newly enacted Forest and Rangeland Renewable Resources Planning Act. Many other recent enactments, some of which have only local application, such as for particular Wildernesses, require additional legal services. Many legislative and regulatory proposals, including those outside of the Department such as the water resource permit regulations proposed by the Corps of Engineers and Environmental Protection Agency, will increase projected legal workloads of the Office. This mounting increase in legal work in the natural resources area, experienced over the past several years cannot be adequately performed in the future without additional personnel, particularly in those OGC field locations weighted with the greater legal responsibilities for natural resources.

Electric and Telephone Division. The Rural Electrification Administration has experienced increased activity both in numbers and amounts of electric and telephone insured loans and guaranteed loans. These projected increases are particularly heavy in the field of electric generation and transmission because of the energy crisis. The Office of the General Counsel's assistance to REA will have to be increased, not only to meet the increased volume of REA activity, but especially because of the complex nature of the larger generating and transmission loans to be guaranteed by REA, most of which will involve joint financing and construction arrangements with other electric companies in order to achieve economies of scale. The increased legal services needed in connection with such projects require one additional attorney position.

Regulatory and Marketing (1 attorney position in Washington, D. C. \$21,000)

Animal and Plant Health Inspection Division - The workload in this Division depends primarily on the activities of the Animal and Plant Health Inspection Service, which proposed increases of \$6,077,000 and 253 man-years for fiscal year 1977. The increases which will have the greatest impact on OGC are \$2,000,000 and 95 man-years for enforcement activities under the Animal Welfare Act and the Horse Protection Act (currently using 59 man-years), and \$187,000 and 9 man-years for enforcement work under the Federal Meat and Poultry Products Inspection Act (currently using 106 man-years). The other increases in the budget of the Service are also expected to increase the legal workload to some extent.

Legislation, Litigation, Research and Operations (1 attorney position in Washington, D. C., \$21,000)

There has been a significant increase in the work assigned to the Research and Operations Division as a result of the following major program areas:

Procurement Contract Matters - This Division performs the legal work relating to procurement matters for all agencies of the Department. Obviously, it does not become involved in every procure-

ment contract let by every agency. However, due to the complexity of the procurement area and the attention it has received through the Report of the Commission on Government Procurement, agencies and contractors are becoming more aware of their contract rights, responsibilities, and the workings of the contract claims process. As a result, this Division is increasingly called upon to advise contracting officers in the making of procurement decisions and to represent the Government's interest in such matters.

Freedom of Information and Privacy Acts - The recent amendments to the Freedom of Information Act have generated a massive increase in the number and complexity of requests made pursuant to the Act. Because of the complexity of such requests, there appears to be a tendency on the part of administrative agencies to refer these requests to the Office of the General Counsel for handling even when they are clearly requests found within such agencies. In view of the strict time limits imposed by the Act on responding to requests and appeals and on filing the Government's answer in the event of litigation, almost every Freedom of Information Act matter must be given priority treatment and handled on an emergency basis. At the same time, the passage of the Privacy Act of 1974 and its required implementation by September 27, 1975, has and will continue to impose heavy demands upon the resources of the Division.

STATUS OF PROGRAM

The Office of the General Counsel is responsible for providing legal services for all activities of the Department. These services include:

- The giving of opinions on legal questions arising in the administration of the Department's activities;
- The preparation or review of rules and regulations applicable to the public;
- The drafting of proposed legislation;
- The preparation and interpretation of contracts, mortgages, leases, deeds, and other documents;
- The prosecution of patent applications arising out of the inventions by the Department's employees;
- The examination of the title to lands to be acquired by the the Department or accepted as security for loans;
- The consideration and determination of claims by and against the United States arising out of the Department's activities;
- The representation of the Department in formal administrative proceedings;
- The referral of cases to the Department of Justice;
- Assisting that Department in the preparation and trial of cases involving the activities of the Department of Agriculture; and,
- Representing the Secretary of Agriculture before the Interstate Commerce Commission in proceedings involving freight rates on farm commodities and in appeals from the Commission to the courts.

COMMODITY AND PRODUCTION STABILIZATION

Commodity Credit Corporation Programs and Operation. In fiscal year 1975, the Office of the General Counsel provided a wide variety of legal services to Commodity Credit Corporation, acting upon 4,898 legal matters involving the Corporation's programs. The Corporation makes price support loans and purchases, carries out storage, sales, and export programs, and makes payments to producers under the feed grain, wheat and cotton payment programs. In connection with these activities this office assisted in drafting over 300 regulations, amendments to regulations, and notices and drafted or reviewed about 250 forms, agreements, and contracts. It provided legal advice on many questions relating to interpretation of statutes, the development of programs, and program operations and on large numbers of claims by and against the Corporation, assisting in the recovery of large amounts on such claims. It also reviewed many investigation and audit reports and referred a large number of these to the Department of Justice for civil and criminal action.

	<u>FY 1973</u>	<u>FY 1974</u>	<u>FY 1975</u>
Commodity Credit Corporation Cases:			
Number of cases referred to Department of Justice	205	159	119
Total dollar value of referred cases (millions)	\$2.9	\$3.7	\$1.8
Number of cases pending in court or Department of Justice, end of year	407	384	352
Total dollar value of pending cases (millions)	\$43.1	\$41.6	\$41.5

	<u>FY 1973</u>	<u>FY 1974</u>	<u>FY 1975</u>
Total collections from litigation (millions)	\$4.1	\$3.4	\$3.0

Lower domestic stocks and higher market prices have caused a decrease in loan and purchase activity, which has resulted in some decrease in new producer loan and warehouse cases. There was an increase, however, in admiralty and railroad cases.

In order to provide more effective service to the Agricultural Stabilization and Conservation Service, Commodity Credit Corporation legal work has been consolidated with other ASCS work in one division of this office.

Food Assistance Programs. During fiscal year 1975, the Food Assistance Programs continued to expand. Benefits were increased as required by the legislation. At the same time the number of participants in the various programs also increased. This expansion of program activities added to the number and complexities of the legal questions presented for consideration.

The volume of legal assistance required in connection with the Food Stamp Program continues to grow as the program expands. To illustrate, the number of legal matters completed under the Food Stamp Program was 3,100 in fiscal year 1972. It increased to 4,061 in fiscal year 1973 and climbed to 4,727 in fiscal year 1974. During the last fiscal year the number of such matters handled totaled 4,803.

Funding for the Child Nutrition Programs--School Lunch Program, School Breakfast Program, Special Milk Program, and Special Food Service Program for Children--has also been increased in recent fiscal years due particularly to expansion of the programs for economically needy children. During the current fiscal year, legislative changes and proposed changes resulted in demand on the Office for more legal services. Increased funding for the Special Supplemental Food Program for Women, Infants and Children also resulted in greater demand for legal services.

Litigation Under the Food Assistance Programs. During the fiscal year 1975, some 28 new suits were instituted against the Department, challenging various aspects of Food Stamp Program operations. These included several cases alleging that there had not been proper implementation of Food Stamp Program outreach requirements.

Litigation activities involving Food Stamp Program violations continued at a substantial rate.

Transportation Service. During fiscal year 1975, the office represented the Secretary, Commodity Credit Corporation, and the agricultural community in a number of proceedings before the Interstate Commerce Commission. The actions before the Commission involve rates, charges, and practices relating to agricultural commodities and farm supplies.

Perishable Agricultural Commodities Act. In fiscal year 1975, 350 reparation cases were instituted, and action was taken which resulted in disposing of 347 cases. One hundred and ten cases were pending at the end of the fiscal year. Thirty-nine new disciplinary proceedings were instituted during fiscal year 1975 and 16 were disposed of. Forty-four cases were pending at the end of the fiscal year. In addition to orders disposing of cases, 43 additional orders were issued.

Other Services. Legal services were also furnished in connection with the Defense Production Act and the U.S. Warehouse Act.

International Trade. The legal work in the international trade area continued to increase. Assistance was given in connection with drafting the Trade Act of 1974 and problems arising thereunder relating to agricultural commodities, such as eliminating non-tariff barriers, countervailing duties, tariff treatment, and trade relations with countries restricted thereunder. Legal problems under GATT and other trade agreements were handled. Documents were drafted providing for cooperation between USDA and agencies of foreign governments in the development of agricultural trade and exchange of agricultural trade information and technology.

Considerable legal assistance was given in the administration of import controls under the Meat Import Law, Section 22 of the Agricultural Act of 1933, and voluntary import agreements entered into under Section 204 of the Agricultural Act of 1956 and with respect to the imposition (and later relaxation) of import restrictions under the Trade Expansion Act of 1962 in order to counter import restrictions imposed by foreign countries on United States agricultural commodities. Legal problems in connection with the export sales reporting regulations increased. Legal assistance was given on problems under the Export Administration Act and the Large Area Crop Inventory Experiment being conducted in conjunction with other government agencies.

Public Law 480, Market Development, Technical Assistance Abroad. Assistance was provided in the drafting of agreements with foreign governments under Public Law 480, rescheduling and otherwise handling debt obligations incurred under the agreements, drafting and interpretation of regulations for financing of commodities exported, ocean freight, and handling numerous other problems under the program. This office assisted in drafting agreements with non-profit trade organizations, state organizations, and private firms providing for agricultural market development activities abroad and agreements to provide for technical assistance activities abroad.

Payment Programs. Legal services were rendered with respect to claims which arose under the Wheat and Rice Export Payment Programs, now discontinued, and in connection with new programs authorized by the Agriculture and Consumer Protection Act of 1973. These include the feed grain, wheat and cotton disaster payment programs, the Rural Environmental Conservation Programs, and the Forestry Incentive Program. A considerable increase in work is expected as a result of the \$20,000 payment limitation.

There has been an increase in the participation of the office in the numerous producer appeals in connection with payments and acreage allotments, including giving legal advice as required and assisting in the drafting of proposed determinations. A large amount of time was expended on the various administrative hearings being conducted in Texas and Washington to determine the liability of over 200 farm operators and producers in Gaines County, Texas, who had been determined to have wrongfully obtained approximately \$7,560,000 in 1973 upland cotton program payments through schemes and devices for which refunds are required.

Assistance was provided in the collection of payments due from wheat processors under the certificate program. Cases involving the payment programs and the wheat processor certificate program referred to the Department of Justice for litigation are reflected in the following table:

Pending in the Department of Justice at the end of FY 1974	110
Referred during FY 1975	155
Closed during FY 1975	53

The cases pending at the end of fiscal year 1974 involved over \$10 million. Recoveries totaled over \$425,000.

Farm Acreage Allotments and Marketing Quota Programs. This office assisted in preparing a number of amendments to and revisions of acreage allotment, marketing quota, and related regulations. It referred to the Department of Justice a considerable volume of cases involving the marketing quota programs and furnished litigation reports and assisted in the preparation for trial of numerous cases in which farmers sought judicial review of administrative determinations involving their farm marketing quotas.

Sugar Act. A number of questions regarding the expiration of the Sugar Act were handled. Assistance was provided to the Department of Justice concerning civil litigation under the Sugar Act in the United States District Courts and Courts of Appeals.

Crop Insurance. The office assisted in the preparation of 19 amendments to the Federal Crop Insurance Regulations, including several new endorsements. Assistance was provided to the Department of Justice on 34 indemnity suits, including 5 new such suits, and 7 other suits, two of which involved possible fraud. Three important cases were on appeal to a United States Court of Appeals.

MARKETING AND CONSUMER SERVICES

Marketing Agreements and Orders. During fiscal year 1975, 16 amendment hearings were held with respect to milk orders, two of which were national hearings and one covered 39 orders. A total of 83 amendatory actions were taken and a total of 62 suspensions and ten termination actions were issued. All 61 existing milk orders were affected by the above actions.

Two amendment hearings were conducted and amendment action was taken with respect to fruit and vegetable orders. Also one termination and one suspension action was taken.

The volume of litigation under marketing orders continued at a high level during fiscal year 1975. Seventy-eight court actions were instituted and eight formal administrative proceedings were initiated by handlers; at the end of the fiscal year 113 court actions and 25 administrative actions were pending. It is to be noted that the trend both in litigation and order amendment hearings has been toward more complex proceedings.

Cotton Research and Promotion Act. Although the collection record under the Cotton Research and Promotion Order was good, it nevertheless was necessary to institute enforcement actions in various district courts of the United States to compel compliance with the Order. There were four such actions pending at the beginning of fiscal year 1975, and two new cases were instituted. At the end of the fiscal year, four cases were pending. Further, in 1975 a substantial amount of time and research was expended in analyzing and reviewing with the Cotton Division, AMS, the program budget for fiscal year 1976, the operations of Cotton, Inc., and the provisions of its contract with the Cotton Board.

Egg Research and Consumer Information Act. During fiscal year 1975, promulgation hearings on a proposed Egg Research and Promotion Order were held in five cities across the nation. Extensive preparation was required prior to conducting the hearings involving working with the egg industry representatives in the preparation of their proposal, the promulgation of rules of practice to formulate an order, and the preparation and issuance of the notice of hearing. Considerable work was done in the preparation of a recommended decision and order, however, it was not actually published until shortly after the end of the fiscal year. It is expected that the final decision will be issued in the fall, 1975, and that rules of practice to conduct a referendum will be issued prior to the end of the calendar year 1975. If the order is approved by the referendum a considerable amount of legal work will be generated as the program gets underway.

Egg Products Inspection Act. During fiscal year 1975, one administrative withdrawal of inspection service action was instituted and resulted in a consent to the withdrawal of service. In addition, one civil action for the seizure of eggs was referred to the United States Attorney and then withdrawn, and one criminal action was referred to the United States Attorney but prosecution was denied. Ten additional criminal files have been referred to this Office by the Poultry Division and are in various stages of review and preparation for referral to the Justice Department. There was also considerable legal activity relating to the amendment of the regulations and to the administration of the regulatory provisions of the Act.

Virus-Serum-Toxin Act. Two criminal cases were pending on July 1, 1974. One other case was referred to the Department of Justice during fiscal year 1975. Two of these cases were closed during this time. The regulations under this Act are being virtually totally revised and updated, section-by-section, to reflect the current technological advancements and handling practices, requiring considerable participation by this Office. There was also significant activity in drafting proposed amendments to the Act and it is anticipated that this activity will continue well into fiscal year 1977.

Federal Seed Act. Under the Federal Seed Act 12 civil cases were instituted during fiscal year 1975. Of these, two were declined by United States Attorney and 10 cases remained outstanding at the end of the year. Eighteen other civil cases were settled in favor of the Government without trial. One criminal case was instituted during the same period. In addition, this Office worked with the Seed Branch on proposed amendments to their regulations, which activity will continue well into fiscal 1977. The Seed Branch advises that they have a substantial backlog of cases which they are endeavoring to process for referral to OGC.

Grain Standards Act. Under the Grain Standards Act a number of possible violations of the Act were investigated by the Department during fiscal year 1975. In addition to one pending criminal action, three new criminal cases were instituted and two other cases were closed with appropriate warnings. A number of cases are being held in abeyance pending completion of current grain investigations by the Department of Agriculture and the Department of Justice, which are projected to continue well into fiscal 1977. Twenty license suspension actions were initiated; 13 licensees are still temporarily suspended on the basis of pending criminal indictments. The Secretary was the subject of a civil action for an injunction and a declaratory judgment to determine the scope of the Secretary's authority under the Act. The case was subsequently dismissed without prejudice. It is projected that upon completion of the investigations currently in process there will be a substantial increase in both administrative and criminal action being initiated in the forthcoming year.

Considerable time was expended in drafting and reviewing proposed regulations for the purpose of improving the integrity and administration of the official inspection of grain under the Act. Substantial effort was also utilized in cooperating with the Grain Division in drafting several bills proposing amendments to the Act, one of which has been submitted by the Department to Congress. In addition, time was also expended in analyzing other proposed amendments submitted by legislators in the Senate and House. It is anticipated that this activity will continue into fiscal year 1977 and, further, the enactment of any of the various proposed amendments to the Act would result in additional workload to this Office and likely require additional personnel.

Tobacco Inspection Act. During fiscal year 1975, there were no enforcement actions initiated under this Act. However, the Secretary was a defendant in two civil proceedings brought pursuant to the antitrust laws of the United States as a consequence of his administration of this Act. Neither case had reached decision by the end of the fiscal year. During fiscal year 1975 OGC attorneys also spent considerable time counseling the Flue-Cured Tobacco Marketing Advisory Committee as well as the Tobacco Division, AMS.

Agricultural Marketing Act of 1946. Revisions of the meat grading standards during fiscal year 1975 precipitated 3 civil actions against the Department, one of which resulted in a two week trial and is presently being appealed in the Circuit Court. A considerable amount of time has been spent assisting in the preparation of the revised standards and in the defense of these civil actions. Bribery convictions in the Los Angeles and other areas along with the continued vigorous enforcement of regulations dealing with voluntary standards, inspection and grading activities under this Act have created the need for considerable attorney time to advise administrative officials on administration of the Act and prosecution of actions arising thereunder. At the beginning of this fiscal year there was one criminal and one administrative action pending. During this year, 4 civil, one criminal and 10 administrative cases arose. There were 4 civil and 11 administrative actions pending at the close of the year. Such administrative and enforcement activity is scheduled to increase substantially in fiscal 1977 to the extent that an additional attorney has been assigned to this program.

Potato Research and Promotion Act. During fiscal year 1975, one civil action was initiated and two cases are still pending. In addition, administration of the regulatory provisions of the Act generated continuous legal activity.

Other Statutes. The Honeybee Act was amended to provide authority to take measures against the African Honeybee. We anticipate that as the new authority is implemented our workload under this statute will increase. There was no significant activity under the Agricultural Fair Practices Act but this office participated in reviewing at least four complaints under this Act.

Animal and Plant Quarantine Laws. During fiscal year 1975, 133 criminal cases were referred to the Department of Justice pursuant to the Animal and Plant Quarantine laws. This represents an increase of 15 cases over fiscal year 1974. Several of these criminal cases involved multiple offenses and multiple defendants. One criminal case was prepared against an accredited veterinarian, involving approximately 55 apparent felony violations of 18 U.S.C. 1001.

Eight administrative proceedings were handled during the year involving suspension or revocation of veterinary accreditations for violations of standards by accredited veterinarians while engaged in veterinary work under the Animal Quarantine programs.

Extensive legal work was also done in fiscal year 1975 in connection with the review and clearance of approximately 75 proposed regulations, notices of proposed rulemaking, and legal notices under the Animal and Plant Quarantine laws, and about 25 additional notices and final documents were reviewed and pending at the end of the fiscal year. Several of these reviews included the drafting of legal memoranda with respect to questions presented in the rule-makings, proposals, and legal notices. Among the reviews during this period were complete revisions of the brucellosis regulations (9 CFR, Part 78), and the regulations governing the inspection and handling of livestock for exportation (9 CFR, Part 91). Extensive time was expended in the review and coordination of regulations promulgated under the Animal and Plant Quarantine laws governing the handling and disposal of garbage imported into this country from specified foreign countries.

Extensive work was done on Animal Quarantine litigation arising from controversies over laws restricting the importation of commercial birds. This included an appeal from a judgment adverse to the Department rendered by the U.S. District Court for the Southern District of Florida. The U.S. Court of Appeals for the Fifth Circuit agreed with the position of the Department in the matter and reversed the lower court decision.

Considerable legal work was also required in connection with the drafting or review of proposed bills and review of reports concerning amendments to the Animal and Plant Quarantine laws, and in connection with advice given to officials of the Department, the Department of Justice and other persons concerning legal questions arising under the laws.

Horse Protection and Animal Welfare Acts. During fiscal year 1975, extensive legal services were required in connection with civil, administrative, and criminal proceedings under these Acts as well as written and oral requests for views and opinions from officials of the Department, the Department of Justice, U.S. Attorneys, and other persons concerning various legal questions arising under the Acts. Twenty-seven criminal cases referred to Tennessee for prosecution were especially time consuming in this regard. Numerous reports of violations were reviewed with appropriate action taken. During the year, seven investigative reports were referred to the Department of Justice and fifty-eight administrative proceedings were initiated under the Acts. The administrative proceedings included the issuance of forty-two proposed stipulations and twenty-seven complaints for violations of the Horse Protection Act and regulations thereunder and sixteen complaints for violations of the Animal Welfare Act and regulations and standards thereunder. Seven administrative proceedings went to hearing before Administrative Law Judges of the Department during fiscal year 1975. As the result of the institution of such actions by the Department, the government recovered \$16,925 in civil penalties under the Horse Protection Act. Many of the administrative proceedings were still pending as of June 30, 1975. Extensive legal work was also required in connection with drafting or reviewing regulations and proposed amendments of the Acts and related proposed legislation.

Considerable time was spent on one administrative case heard in July 1975 in particular, due to numerous and lengthy motions which had to be answered along with inquiries and a related court case dealing with the Freedom of Information Act.

Under the Twenty-Eight Hour Law, ten civil cases (involving 23 reports of violations) were referred to the Department of Justice during the fiscal year.

Packers and Stockyards Act. In fiscal year 1975, 138 disciplinary and 31 reparation proceedings were instituted, as compared with 113 and 38, respectively, instituted in fiscal year 1974. At the end of the year, 156 disciplinary cases were on hand for institution or other action and 45 reparation cases, compared with 98 and 32, respectively, on hand at the end of fiscal year 1974. In fiscal year 1975, 22 criminal and 37 civil enforcement cases were submitted to the Department of Justice, and at the end of the year 41 such cases were pending in the office, compared with fiscal year 1974 figures of 30 criminal, 47 civil, and 13 pending.

Several cases in which administrative complaints were issued during the fiscal year were of such magnitude and complexity that it was necessary to assign two attorneys to handle them. These requirements, together with increased activity of the Packers and Stockyards Administration in asserting jurisdiction over certain types of feedlot operations, enforcement of regulation 201.70a, which prescribes joint ownership or operation of packers and custom feedlots, and in the area of stockyard tariffs, have required, and apparently will continue to require, a substantial increase in legal services.

Commodity Exchange Act. During the first three quarters of fiscal year 1975, 6 formal administrative proceedings were instituted. Extensive legal services were rendered in connection with a total of 35 administrative disciplinary proceedings which were handled or under consideration during fiscal year 1975. One criminal case was referred to the Department of Justice during the three-quarter period.

On April 21, 1975, pursuant to the provisions of the Commodity Futures Trading Commission Act of 1974 (Pub. Law 93-463), the operations of the Commodity Exchange Commission and the Secretary of Agriculture under the Commodity Exchange Act, including all pending administrative proceedings, were transferred to the Commodity Futures Trading Commission which was established by that Act as an independent agency of the United States Government.

Meat and Poultry Products Inspection Act. The demand for legal services under these Acts continued at a very high level during fiscal year 1975. About 60 notices of proposed rule-making or final documents amending regulations under the Acts were received and cleared during fiscal year 1975, and about 17 additional notices and final documents were reviewed and pending at the end of the fiscal year. Approximately 60 legal memoranda were written with respect to questions presented during these reviews and by the administrative officials.

We provided legal services in connection with 9 civil court actions relating to the meat or poultry inspection programs in which Departmental and cooperating State officials were involved.

During fiscal year 1975, 56 criminal cases and 9 civil seizure cases were referred to the Department of Justice (including U.S. Attorneys) for the possible institution of court actions. This represents an increase of 14 cases over fiscal year 1974. One hundred five criminal and 23 civil cases were pending in the Department of Justice on June 30, 1975.

During the year, three proceedings were instituted seeking withdrawal of federal meat and poultry product inspection from firms which have been convicted, or which have had responsible officials thereof convicted, of bribery of federal meat inspection personnel. These actions involved considerable legal work with respect to litigation of various issues and related proceedings under the Freedom of Information Act. Many other similar withdrawal cases were being considered for action at the end of the fiscal year.

Extensive legal work was also required during the year, in regard to the drafting or review of proposed bills and reports concerning amendments to the Meat and Poultry Products Inspection Acts, in regard to the drafting and revision of regulations promulgated under these statutes and in regard to the advice given to officials of this Department, the Department of Justice and other persons, concerning legal questions arising under these statutes.

Other Miscellaneous Activities. Considerable work was also done in connection with a case that was before the U.S. Court of Appeals for the D.C. Circuit in which the constitutionality of the direct extension connection features of the Market News Service was challenged. The court upheld the constitutionality of the direct extension connection feature.

COMMUNITY DEVELOPMENT AND NATURAL RESOURCES

Farmers Home Administration (FmHA). The volume of Farmers Home Administration direct, guaranteed, and insured loans and grants for fiscal year 1975 was \$5.466 billion. This activity was mainly under the Consolidated Farm and Rural Development Act, Title V of the Housing Act of 1949, and the Emergency Livestock Credit Act of 1974. These Acts permit financial assistance for farming, including the guaranteed livestock loan purposes, housing, community facilities, and business and industry. The Rural Development Act of 1972 substantially increased FmHA's authority and, among other things, permitted the agency to make, insure, and guarantee business and industry loans.

In this area legal work has significantly increased due in large part to recently enacted and proposed legislation. This trend is expected to continue in fiscal year 1977. This type of non-routine legal work, involving new and

expanded program authorizations, statutory interpretations, drafting and approval of FmHA regulations, interpretation and application of new regulations, etc., is particularly time-consuming. One example of such new legislation is the Housing and Community Development Act of 1974 which substantially increased the scope of the FmHA housing programs under Title V of the Housing Act of 1949 and increased the agency's authority to carry out existing programs. Other examples include the extensive amendments to the Emergency Livestock Credit Act of 1974 and the comprehensive revisions to the emergency loan program of the Consolidated Farm and Rural Development Act. Also, considerable time is expected to be expended on many proposed legislative suggestions, many of which are of a highly technical nature to improve the loan making and servicing of FmHA's programs.

In addition, an increasing amount of time is being devoted to litigation and servicing actions of FmHA. Of principal concern is the number of suits brought against the Government concerning the legality of nonjudicial foreclosure actions and legal assistance needed to devise procedures by which such legal issues may be minimized without interfering with FmHA servicing requirements.

Rural Electrification and Telephone Program - Loans and Security. Increased REA activity, both in numbers and amounts of electric and telephone insured loans and guarantees, requires significantly greater legal assistance for the REA programs. These increases are expected to be particularly important with respect to guarantees of electric generation and transmission facilities because of the energy crisis. The legal work of the Office in connection with such financing is especially complex not only because of the very large sums involved but also because there is generally the need to develop joint financing and construction arrangements with other electric suppliers in order to achieve the economies of scale. Advice and assistance continue to be provided in connection with operation of the Rural Telephone Bank.

Power Supply. To protect REA loan security interests and help achieve program objectives, REA continued to require substantial legal assistance in drafting and analyzing complex power supply and power pooling arrangements between REA-financed power supply cooperatives and other electric suppliers. Proposals for joint financing of generating plants involving both REA and private financing were studied and developed. REA has increased the legal assistance requirements in complying with Congressional recommendations to make "power surveys" and carry on direct negotiations with power suppliers prior to making loans for electric generation and transmission facilities.

Forestry and Other Land Programs. The Forest Service, the only agency of the Department charged with the administration of public lands, has jurisdiction and management responsibility of approximately 1/12 of the land area of the United States. Legal services in connection with these responsibilities of land administration and management have escalated. The Washington and field offices continue to provide legal assistance to the Forest Service in the preparation and interpretation of timber sales contracts, special use permits, and grazing use permits; the acquisition of lands and interests; the interpretation of private rights in minerals on national forest lands; water rights on national forest and other lands; and litigation matters.

Substantial increases took place in timber sale contract litigation brought about by desire to increase supply in order to lower prices. Economic instability of the timber industry resulted in a number of defaulted contracts, failure to complete sales, damage controversies, extension policy, rate re-determination, cost allowances and contract administration in general. Legal services have been required also in program matters as a result of recent amendments to the Freedom of Information Act and the newly enacted Privacy Act.

Regulations and Administrative Appeals. Legal assistance was given in preparing Secretary's Regulations for the protection and administration of National Forest System lands reviewing the Forest Service Manual instructions.

Statutory authorities requiring new regulations in specially designated areas such as Sawtooth NRA, Cascade Head Scenic Research Area Eastern Wilderness and required extensive legal drafting and review. Additionally, litigation has been generated in some areas by the issuance of Secretary's Regulations such as the pending case of Stewart, et al. v. Butz, et al., U.S.D.C., Idaho, contesting the constitutionality of the Sawtooth NRA statute and the regulations issued by the Secretary relating to private lands. Also, regulations issued by the Secretary relating to mining on national forest lands have generated litigation in Montana and New Mexico.

The new Administrative Appeal Regulation (36 C.F.R. 211.2, et seq.) became effective on September 25, 1974. The Board of Forest Appeals was merged into the Board of Contract Appeals (7 C.F.R. Part 24, et seq.). Jurisdiction of the Board of Contract Appeals was consolidated to handle all Forest Service appeals involving written instruments. Preliminary figures since the Board of Contract Appeals began in September 1974 indicate a ratio of 80 percent Forest Service related cases. All other appeals, such as those involving Forest Service policy and management issues, are handled within the Forest Service administrative review process, with the assistance and advice of Washington and field OGC offices. Additionally, Washington attorneys continue to render assistance to the Secretary and the Assistant Secretary in appeals that come to them for review. Attorneys continue to act as counsel for the Forest Service before the new Board of Contract Appeals.

Litigation. Legal assistance continues to be given on a variety of actions and claims. These included unauthorized removal of timber, minerals, and other forest resources, unauthorized occupancy and use, cost of fire suppression and injury by fire and other forest resources, breach of timber sales contracts, commission of petty offenses on the national forests, and water rights adjudications. The litigation workload has been consistently heavy with a substantial number of lawsuits involving conservation-interested organizations and individuals disputing Forest Service land management decisions on timber sales, recreation and industrial developments, wilderness preservation and the multiple use of lands and resources. Over 60 cases have involved alleged noncompliance with requirements of the National Environmental Policy Act of 1969.

Management of the national forests under principles of multiple use demonstrates the marked increase in the litigation in several areas of land management. Recreational use of Forest Service lands has greatly increased in recent years, reflected by appeals and litigation as competing statutory uses conflict. For example, Sabin v. Butz (skiing), Sierra Club v. Morton (Mineral King Recreational Development). Allegations that watersheds and wildlife were not given proper weight in Forest Service decision-making were raised in Miller v. Mallory (watershed). Kodiak Aleutian Chapter, Alaska Conservation Society v. Butz (fisheries), Zieske v. Butz (wildlife and fisheries).

Roadless areas and the Wilderness System, now including the new Eastern Wilderness, have raised problems in purity of management, access to private inholdings, mining and timber activities. For example, MPIRG v. Butz (timber), Friends of the Earth v. Butz (mining access).

Litigation involving mining on national forest land is another indication of the upward trend in this area. Increasingly valuable mineral deposits, subject to location and/or lease under new Forest Service mining regulations, on all national forest lands, including wilderness not specially withdrawn from mineral

entry, have resulted in conflicts with multiple use objectives. For example, Sierra Club v. Morton (coal strip mining in the West), State of Florida v. Morton (phosphate stripping in Florida), and U.S. Royalty Oil v. Morton (oil drilling Condor sanctuary, California).

Land Acquisition Programs. The acquisition of land and related interests remains at a high level. There were 1900 acquisition cases closed, representing a total of 95,000 acres with a value of \$37,500,000. Titles to all land and interests in land acquired are now approved by the Office of the General Counsel under a delegation of authority from the Attorney General. Significant problems requiring legal assistance arose in the acquisition programs under the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, 42 U.S.C. 4601, et seq., and the Regulations of the Department implementing the Act. Acquisitions in specially designated areas such as National Recreation Areas has resulted in a notable increase in the number of tracts needed to be acquired by condemnation in Federal courts with added impact in the litigation area in both Washington and the field offices.

Environmental Protection Programs. The level of legal services has increased in matters relating to the protection of the environment with simultaneous provision of adequate food supplies for man. The Department participated in administrative hearings before the Environmental Protection Agency which were instituted pursuant to the provisions of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 135, et seq.), to determine whether the registrations of several chemicals subject to the Act should be suspended, cancelled, amended, or retained. These cases involved, inter alia, products containing Mirex, aldrin and dieldrin, 2,4,5-Trichlorophenoxyacetic Acid, and chlordane and heptachlor. Both endrin and lindane are under discussion and subject to potential EPA action, and either or both could result in cancellation proceedings. The administrative and appellate proceedings in aldrin recently were completed. The hearing in the Mirex case has been protracted, and we anticipate that the mirex litigation and the chlordane/heptachlor suspension hearing, as well as any additional cancellation actions, will continue to demand the attention of office personnel.

Soil Conservation Service Programs

Soil and Water Conservation District Programs. Legal assistance is provided in the review of new memoranda of understanding between soil and water conservation districts and the Soil Conservation Service. Changes in State and Federal laws have necessitated the preparation of new or amended memoranda of understanding in certain areas, in addition to the regular duties of interpreting and advising on the application of appropriate State and Federal statutes to program assistance for the approximately 3,000 soil and water conservation districts in the United States. Assistance is also given in drafting legislation to amend State soil and water conservation district enabling laws to clarify and expand the purposes for and powers of such districts.

Watershed Protection and Flood Prevention Programs. In the planning phase of watershed projects for this past year, more than 71 watershed work plans and accompanying Environmental Impact Statements were reviewed for legal sufficiency. During the installations and operations phase of the watershed projects, additional legal questions have arisen from the implementation of the National Environmental Policy Act of 1969, the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, the Federal Water Pollution Control Act Amendments of 1972 and the regulations promulgated thereunder, the Historic Preservation Act of 1966 and associated regulations, the Historical and Archeological Data Act of 1974, and the Endangered Species Act of 1973. Several new legal implications have arisen from these statutes regarding the administration of contracts, performance of work, and the relative responsibilities of the Soil Conservation Service. In addition to

the programmatic and intergovernmental problems stemming from the implementation of these statutes, eight lawsuits are pending against Soil Conservation Service water resources activities, raising serious nationwide program questions.

Great Plains Conservation Program. Ministerial problems and, in some situations, litigation arising from contracts between the Department of Agriculture and cooperating producers have required the bulk of legal assistance for this program. Most deal with the handling of claims against producers for refunds of cost-share payments or adjustments stemming from contract violations. Additional legal review is requested in the revision of the program handbook and regulations.

Resource Conservation and Development Program. Legal work included the interpretation and application of State laws in connection with the eligibility and legal powers of sponsors of RC&D projects, contract administration problems, interpretations of applicable Federal laws to determine the authority of the Secretary to plan and carry out such projects, review of field instructional material, review of SCS policy and operational instructions, and preparation for CFR codification of regulations governing the RC&D Program. As stated for the Watershed Protection and Flood Prevention Program, the implementation of certain recent statutes has resulted in a need to adjust the delivery of Federal assistance under the RC&D program to the statutes cited above.

Wellton-Mohawk Irrigation Improvement Program (WMP). Pursuant to Title I of the Colorado River Basin Salinity Control Act, Pub. L. 93-320, Sec. 101 (f) (1), (k) and 196, the Bureau of Reclamation of the Department of the Interior and the Soil Conservation Service have engaged in a cooperative program of on farm technical and cost-sharing assistance for the installation of on-farm irrigation improvement measures. The WMP is a prototype program and, as such, presents several novel legal issues. SCS's role of providing technical and financial assistance carries legal implications in the areas of cooperation agreements, cost sharing contracts, land rights determinations, and interstate stream flowage rights, as well as the legal questions inherent to any new and unique program.

Water Resource Responsibility of the Secretary. Legal advice was furnished on a continuing basis to representatives of the Secretary on problems of the Water Resources Council. Legal assistance was furnished in connection with approximately 65 water rights adjudications affecting this Department. Advice was furnished in connection with the new principles and standards for use by the agencies carrying out water resource projects, and on the Department of Justice's proposal for quantification of all Federal water rights.

LEGISLATION, LITIGATION, RESEARCH AND OPERATIONS

Legislation. This office provides legislative and related legal services for the entire Department through coordination of congressional requests for Departmental witnesses, designation of such witnesses, and review and clearance of testimony. In addition, the office reviews for legal sufficiency all Departmental legislative reports on bills pending before the Congress and on proposals of other executive agencies. In fiscal year 1975, this office reviewed and cleared approximately 655 legislative reports on pending bills and proposals, and participated in the preparation and clearance of testimony for 139 hearings before Congressional Committees.

The Office of the General Counsel prepares and assists in the preparation of drafts of legislative proposals on requests for members of Congress, Congressional Committees, and agencies within the Department and provides technical assistance to Congressional Committees on legislation. Substantial legal assistance

was rendered in connection with legislation relating to the Food Stamp Program, Child Nutrition and block grant proposal, emergency loan program, and the national grain inspection system.

The office assisted in reviewing Departmental programs in connection with preparation of the USDA legislative program. The office also coordinated and prepared legislative proposals to continue programs during the transition quarter when the fiscal year changes and to facilitate this change to the new fiscal year. And, responding to questions relating to the Congressional Budget and Impoundment Control Act of 1975 and commenting on legislation to establish an Agency for Consumer Advocacy required considerable time.

Appellate Litigation. The Litigation Division of the Office of the General Counsel serves as the focal point for the Department and principal point of contact with the Department of Justice in connection with all appellate matters. The programs and activities of the Department generate a large volume of litigated cases. On the average, over one hundred cases each year are decided adversely to the Department by trial courts around the country. The Office of the General Counsel must prepare a thorough written legal analysis and appeal recommendation to the Solicitor General with respect to each case. In addition the Office must provide extensive assistance to Justice Department attorneys defending the administrative decisions of the Secretary before the United States Court of Appeals. The Department of Justice periodically requests attorneys from this Office to brief and argue such cases. More than sixty appellate cases are usually pending at any given time and the Office must keep on top of and regularly prepare reports on the status of each. Attorneys in the Office brief and argue or coordinate preparation of the brief and presentation of argument in appellate cases assigned to this Department for handling by the Department of Justice.

Contracts and Agreements. This Office provided the necessary legal advice to the handling of problems arising in all phases of the Department's procurement process. Such included the drafting and review, as necessary, of regulations, proposed solicitations, contracts and other procurement related documents. In addition, advice was rendered on such preaward matters as bid protests and terminations were made in 31 cases involving alleged mistakes in bid. Advice was furnished to this Department's Contracting Officers in connection with performance problems as they arose and counsel was furnished to defend numerous appeals which were taken by contractors to the Department's Board of Contract Appeals.

In related matters this Office provided legal advice and assistance in regard to the preparation and execution of cooperative agreements, memoranda of understanding, grants, leases, and permits for the use of property. Advice was also given in regard to the commercial licensing of the name and symbol "Smokey Bear" and "Woodsy Owl".

Departmental Administration. Questions were answered relating to Federal personnel laws and regulations. Considerable time was spent giving legal advice on interpretation of the Congressional Budget and Impoundment Control Act of 1974. All Office of Investigation reports involving personnel irregularities were reviewed and, where the facts indicated a violation of criminal statute, referred to the Department of Justice for consideration of criminal action. Attorneys represented the Department at discrimination, adverse action appeal, and labor management hearings.

Considerable time was spent in connection with matters arising under the Federal Advisory Committee Act. In addition, the amendment of the Freedom of Information Act, and passage of The Privacy Act resulted in a significant number of legal and administrative problems which were resolved.

Questions arising from the payment of indemnity under the animal disease eradication program were answered.

Legal assistance was provided in connection with Title VI and Title VII of the Civil Rights Act of 1964, other legislation such as the Equal Employment Opportunity Act of 1972, Executive Orders relating to civil rights and other civil rights matters. Attorneys act as agency counsel in administrative proceedings under Title VI and in personnel actions where discrimination is charged. Three cases involving Texas, Mississippi, and North Carolina Cooperative Extension Services continued in litigation this fiscal year. Additional cases in litigation having "Civil Rights" implications involved the Department's personnel policy, administration of grant programs, and enforcement of Executive Order 11246. Counsel was provided in a Department of Labor hearing under Executive Order 11491.

Farmer Cooperatives. The Office gave advice to the Farmer Cooperative Service on questions relating to interpretation and application of the Capper-Volstead Act (7 U.S.C. 292), and antitrust laws and their relationship to farmer cooperatives; reviewed standard clauses for use in charters and by-laws of cooperatives; and assisted in the revision of Farmer Cooperative Bulletins.

Patents. During fiscal year 1975, 163 cases were submitted from the field offices to this Office. Four hundred and forty-one cases including those filed in prior years were prosecuted through various stages in the Patent Office; 144 new cases were filed; 130 terminated as patents; and 40 terminated by abandonment. Thirteen finally-rejected cases were appealed to the Board of Appeals. One trademark registration was granted.

Torts and Other Claims. This Office in the fiscal year determined, settled and adjudicated a large number of claims filed with the Department by claimants under the Federal Tort Claims Act and other claim statutes. During the year, 376 new claims were received under the Act by the Washington Office, and 225 claims were received by our field offices. Each claim requires that the facts be analyzed, legal research be made concerning applicable law, and a determination be made as to damages and liability.

Sixty-two suits were filed against the United States in the year on disallowed claims. There are about 80 lawsuits pending against the Department involving claims amounting to many millions in damages.

Under the Federal Claims Collection Act, the agencies of the Department are provided counsel on what claims should be terminated or compromised. A number of claims were referred to the Department of Justice for collection where collection could not be administratively accomplished. The Office also provided assistance to agencies on filing proofs of claims in bankruptcy cases.

A number of lawsuits were filed against employees of the Department arising out of their employment and this Office provided assistance to such employees in obtaining legal representation by the Attorney General.

This is a geographic breakdown of obligations and man-years:

Location	1975 actual		1976 estimate		1977 estimate	
	Obligations	Man Years	Obligations	Man Years	Obligations	Man Years
Alaska.....	45,087	1	51,102	2	52,782	2
Arkansas.....	180,856	9	195,891	9	202,331	9
California.....	305,434	14	323,646	15	334,286	14
Colorado.....	297,668	14	315,129	13	325,489	13
District of Columbia.....	4,729,085	204	5,059,098	205	5,158,418	209
Georgia.....	527,805	19	562,122	31	580,602	32
Illinois.....	256,118	13	374,748	12	387,068	12
Kansas.....	269,903	13	289,578	13	299,098	13
Minnesota.....	97,112	6	--	--	--	--
Montana.....	85,244	2	93,687	6	96,767	6
New Mexico.....	70,206	4	76,653	5	79,173	5
Oklahoma.....	103,083	3	110,721	3	114,361	3
Oregon.....	220,536	10	238,476	10	246,316	10
Pennsylvania.....	250,421	8	264,027	12	272,707	12
Texas.....	224,151	12	238,476	12	246,316	12
Utah.....	77,495	3	85,170	3	87,970	3
Wisconsin.....	118,567	6	127,755	8	131,955	8
Puerto Rico.....	105,508	5	110,721	5	114,361	5
Totals.....	<u>7,964,279</u>	<u>346</u>	<u>8,517,000</u>	<u>364</u>	<u>8,730,000</u>	<u>368</u>

AGRICULTURAL RESEARCH SERVICE

Purpose Statement

The Agricultural Research Service (ARS) was established on November 2, 1953, pursuant to authority vested in the Secretary of Agriculture by 5 U.S.C. 301 and Reorganization Plan No. 2 of 1953, and other authorities.

The Agency is responsible for conducting basic, applied, and developmental research of:

- Animal production
- Plant production
- Use and improvement of soil, water, and air
- Marketing, use, and effects of agricultural products

The research applies to a wide range of goals; commodities; natural resources; fields of science; and geographic, climatic, and environmental conditions. It is categorized into 67 ARS National Research Programs and eight Special Research Programs.

The mission of ARS research is to develop new knowledge and technology which will insure an abundance of high quality agricultural commodities and products at reasonable prices to meet the increasing needs of an expanding economy and to provide for the continued improvement in the standard of living of all Americans. This mission focuses on the development of technical information and technical products which bear directly on the needs to (1) manage and use the Nation's soil, water, air, and climate resources and improve the Nation's environment; (2) provide an adequate supply of agricultural products by practices that will maintain a permanent and effective agriculture; (3) improve the nutrition and well-being of the American people; (4) improve living and rural America; (5) strengthen the Nation's balance of payments; and (6) promote world peace.

In addition to the regular research program, the Service directs foreign research mutually beneficial to the United States and the host country which can be advantageously conducted in foreign countries. Under this program agreements are made with individual foreign research institutions and universities. The program is carried out under the authority of Section 104(b)(1) and (3) of Public Law 480, the Agricultural Trade Development and Assistance Act of 1954, as amended.

The Agency's research is conducted at numerous field locations in the States, District of Columbia, Puerto Rico, the Virgin Islands, and in several foreign countries. Much of the work is conducted in direct cooperation with the State agricultural experiment stations, or other State and Federal agencies, and with private organizations.

Central offices for the Administrator of ARS and his staff are maintained in the Washington, D.C. Metropolitan Area, which provide overall leadership and direction to the programs and activities assigned to the Agricultural Research Service. The field activities are managed on a geographical basis through four Regional Offices, 20 Area Offices and seven major Research Centers.

Available Funds and Man-Years
1975 and Estimated, 1976 and 1977

Item	Actual	1975	Estimated	1976	Estimated	1977
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Agricultural Research Service:	a/	:	a/	:	a/	:
Regular appropriation:	\$208,450,000)	:	\$262,304,000)	:	\$263,202,000)	:
Transfer from	)	9,054:	)	9,474:	)	9,474:
Section 32 funds ..	15,000,000)	:	- -)	:	- -)	:
Scientific activities:	:	:	:	:	:	:
overseas (Special	:	:	:	:	:	:
Foreign Currency	:	:	:	:	:	:
Program)	5,000,000	14:	7,500,000	15:	10,000,000	15
Total	228,450,000	9,068:	269,804,000	9,489:	273,202,000	9,489
Deduct allotments to	:	:	:	:	:	:
other agencies	-604,056	-24:	-1,221,000	-28:	-1,375,000	-28
Net	227,845,944	9,044:	268,583,000	9,461:	271,827,000	9,461
<u>Obligations under</u>	:	:	:	:	:	:
<u>other USDA appropri-</u>	:	:	:	:	:	:
<u>ations:</u>	:	:	:	:	:	:
Animal and Plant	:	:	:	:	:	:
Health Inspection	:	:	:	:	:	:
Service--emergency:	:	:	:	:	:	:
programs and field:	:	:	:	:	:	:
station services ..	3,293,774	102:	3,730,825	111:	3,730,825	111
Food and Nutrition	:	:	:	:	:	:
Service--improved	:	:	:	:	:	:
dietary nutrition	246,356	15:	305,736	16:	305,736	16
National Agricult-	:	:	:	:	:	:
ural Library--	:	:	:	:	:	:
various services ..	286,469	- -:	335,784	- -:	335,784	- -
Soil Conservation	:	:	:	:	:	:
Service--field	:	:	:	:	:	:
station services ..	257,624	- -:	64,307	- -:	64,307	- -
Economic Research	:	:	:	:	:	:
Service--including:	:	:	:	:	:	:
P.A.S.A. and	:	:	:	:	:	:
training of for-	:	:	:	:	:	:
oreign nationals ...	717,305	21:	1,235,688	26:	1,235,688	26
Agricultural Market-	:	:	:	:	:	:
ing Service--field:	:	:	:	:	:	:
station services ..	93,495	- -:	128,493	- -:	128,493	- -
Coordinated Depart-	:	:	:	:	:	:
mental Services ..	32,522	1:	27,257	1:	27,257	1
Miscellaneous	:	:	:	:	:	:
reimbursements ...	1,595	- -:	1,587	- -:	1,587	- -
Total Other USDA	:	:	:	:	:	:
Appropriations ..	4,929,140	139:	5,829,677	154:	5,829,677	154
Total, Agricultural	:	:	:	:	:	:
Appropriation	232,775,084	9,183:	274,412,677	9,615:	277,656,677	9,615
Working Capital Fund	4,942	- -:	- -	- -:	- -	- -
Other Federal funds	6,390,448	122:	9,326,251	111:	9,327,251	111
Non-Federal funds ...	948,480	27:	1,007,272	28:	1,010,272	28
Total, Agricultural	:	:	:	:	:	:
Research Service ...	240,118,954	9,332:	284,746,200	9,754:	287,994,200	9,754

	1975 <u>Actual</u>	1976 <u>Estimated</u>	1977 <u>Estimated</u>
End-of-Year Employment:			
Permanent full-time	8,174	8,331	8,331
Other	1,350	1,500	1,470
Total included in			
ceiling	9,524	9,831	9,801
Number of disadvantaged			
youth	448	600	600
Total	9,972	10,431	10,401

a/ Excludes \$1,000,000 reappropriation.

(a) Agricultural Research Service

Appropriation Act, 1976.....	\$255,675,000 a/
Budget Estimates, 1977.....	<u>263,202,000</u>
Increase in appropriation.....	<u>+7,527,000</u>

Adjustments in 1976:

Appropriation Act, 1976.....	\$255,675,000
Supplemental Appropriation for pay costs.....	+6,629,000
Adjusted base for 1977.....	<u>262,304,000</u>
Budget Estimate, 1977.....	<u>263,202,000</u>
Increase over adjusted 1976.....	\$ <u>+898,000</u>

a/ Excludes reappropriation of \$1,000,000 of prior year funds for additional labor, subprofessional and junior scientific help in the field.

SUMMARY OF INCREASES AND DECREASES
(on basis of adjusted appropriation)

	<u>1976</u>	<u>Increase or Decrease</u>	<u>1977 Estimate</u>
<u>Program Changes:</u>			
Improve yields and quality of crops through increased research on nitrogen fixation, photosynthesis, and cell biology.....	\$ 1,409,000	\$+1,199,000 (1)	\$2,608,000
Increase yield and quality of food and feed grains, oilseeds, cotton, fruits, vegetables and ornamentals, including technologies to meet climatic variables...	5,808,000	+1,873,000 (2)	7,681,000
Protection against genetic vulnerability of crops....	2,410,000	+656,000 (3)	3,066,000
Develop safe and effective pest control technology for horticultural and field crops with emphasis on special uses.....	4,293,000	+1,334,000 (4)	5,627,000
Increase supplies of high quality animal protein through research on production and disease and insect prevention and control.....	13,693,000	+1,876,000 (5)	15,569,000
Improve and conserve soil, water, and air resources for expanding agricultural production and environmental protection.....	16,632,000	+1,114,000 (6)	17,746,000

	<u>1976</u>	<u>Increase or Decrease</u>	<u>1977 Estimate</u>
<u>Program Changes: cont'd.</u>			
Improve production, use and quality of forages and grazing lands to support efficient meat and milk production	\$1,974,000	+436,000 (7)	2,410,000
Improve human nutrition and food safety, and determine nutrient availability in foods	1,336,000	+750,000 (8)	2,086,000
Tropical and subtropical agricultural research and training	529,000	+140,000 (9)	669,000
Research to support Animal and Plant Health Inspection Service trial program on eradication and control of bollweevil	3,368,000	+500,000 (10)	3,868,000
Repair and maintenance of facilities	---	+1,656,000 (11)	1,656,000
Annualization of pay increases effective in FY 1976.....	6,629,000	+2,955,000 (12)	9,584,000
Payment to GSA for rental of government-owned or leased space	1,758,000	+304,000 (13)	2,062,000
Dairy herd improvement	1,500,000	-1,500,000 (14)	---
Marketing research	52,046,000	-2,000,000 (15)	50,046,000
All Other	<u>138,524,000</u>	---	<u>138,524,000</u>
Total, Program Changes ..	<u>251,909,000</u>	<u>+11,293,000</u>	<u>263,202,000</u>
<u>Facility Changes:</u>			
Elimination of non-recurring facility items	<u>10,395,000</u> a/	<u>-10,395,000</u> (16)	---
Total, Available	<u>262,304,000</u>	<u>+898,000</u>	<u>263,202,000</u>

a/ Excludes proposed supplementals of \$6,000,000 for Plum Island, N.Y. construction and \$2,350,000 for Beltsville, Md. construction; proposed rescission of \$225,000 for construction planning at Grand Forks, North Dakota.

PROJECT STATEMENT
(on basis of adjusted appropriation)

	1975	1976 (Estimated)	Increase or Decrease	1977 (Estimated)
1. <u>Research on animal</u>				
<u>Production:</u>				
(a) Animal production				
efficiency research	\$ 42,389,535	\$50,248,000	+1,562,000	\$51,810,000

	1975	1976 (Estimated)	Increase or Decrease	1977 (Estimated)
2. <u>Research on plant produc-</u>				
<u>tion:</u>				
(a) Crop production efficien-				
cy research.....	78,990,019	93,104,000	+6,610,000	99,714,000
(b) Tropical and subtropical				
agricultural research...	512,652	529,000	+147,000	676,000
Total, Research on Plant				
production.....	79,502,671	93,633,000	+6,757,000	100,390,000
3. <u>Research on the use and</u>				
<u>improvement of soil, water,</u>				
<u>and air:</u>				
(a) Research on conservation				
and use of land and water				
resources and maintaining				
environmental quality....	18,723,858	21,851,000	+2,048,000	23,899,000
(b) Research on watershed				
development.....	7,742,141	9,313,000	+676,000	9,989,000
Total, Research on the use and				
improvement of soil, water,				
and air.....	26,465,999	31,164,000	+2,724,000	33,888,000
4. <u>Research on marketing, use</u>				
<u>and effects of agricultural</u>				
<u>products:</u>				
(a) Marketing efficiency				
research.....	47,458,225	52,046,000	-967,000	51,079,000
(b) Research to expand agri-				
cultural exports.....	1,821,048	1,948,000	+38,000	1,986,000
(c) Food and nutrition				
research.....	7,862,636	11,036,000	+530,000	11,566,000
(d) Research to improve human				
health and safety.....	10,369,715	10,803,000	+628,000	11,431,000
(e) Research on consumer				
services.....	443,280	592,000	+14,000	606,000
(f) Research on housing.....	224,720	304,000	+5,000	309,000
Total, Research on marketing				
use and effects of agricultural				
products.....	68,179,624	76,729,000	+248,000	76,977,000
5. <u>Support services for other</u>				
<u>USDA Agencies.....</u>	127,000	135,000	+2,000	137,000
6. <u>Construction of facilities..</u>	6,420,000	a/ 10,395,000	-10,395,000	---
7. <u>Contingency research fund..</u>	b/	1,000,000	---	1,000,000
Unobligated balance.....	1,365,171	---	---	---
Subtotal.....	224,450,000	263,304,000	+898,000	264,202,000
Deduct reappropriation for				
Special Fund.....	-1,000,000	-1,000,000	---	-1,000,000
Total available or estimate..	223,450,000	262,304,000	+898,000	263,202,000
Transfer from Departmental Ad-				
ministration for support				
services to other USDA				
agencies.....	-127,000	- -		
Supplemental Appropriation				
for pay costs	- -	-6,629,000		
Total appropriation	223,323,000	255,675,000		

a/ Excludes proposed supplementals of \$6,000,000 for Plum Island, N.Y. construction and \$2,350,000 for Beltsville, Md. construction; proposed rescission of \$225,000 for construction planning at Grand Forks, N.D.

b/ Obligations \$959,306 of the \$1,000,000 appropriated in 1975 are included in the projects above.

EXPLANATION OF PROGRAM

Under the Agriculture and Related Agencies Appropriation Act of 1976, the Agricultural Research Service carries out the following activities:

1. Research on animal production.--Research is conducted to improve livestock productivity (including poultry) through improved breeding, feeding, and management practices and to develop methods for controlling diseases, parasites, and insect pests affecting them.

2. Research on plant production.--Research is conducted to improve plant productivity (including ornamentals, trees, turf, tropical and subtropical crops) through improved varieties of food, feed, fiber, and other plants; develop new crop resources; and improve crop production practices, including methods to control plant disease, nematodes, insects, and weeds.

Plant and Animal Production Efficiency Research is authorized by the Department of Agriculture Organic Act of 1862 (5 U.S.C. 511) and the Research and Marketing Act of 1946, as amended (7 U.S.C. 427, 427i). These laws authorize the acquiring and diffusing of information on agriculture and the research on production of agricultural commodities and matters related to agriculture. Other laws covering specific research are: Foot-and-Mouth Disease Research, Public Law 80-496, April 24, 1948, (21 U.S.C. 113a); Cattle Grub Research, P.L. 80-651, June 16, 1948, (21 U.S.C. 114e, f); Agricultural Engineering Research, P.L. 81-171, June 25, 1949, (42 U.S.C. 147a); Agricultural Programs in the Virgin Islands, P.L. 82-228, October 29, 1951, (48 U.S.C. 1409 m, n, o); Cooperation of States in USDA Programs, P.L. 87-718, September 28, 1962, (7 U.S.C. 450); Payment of Indirect Costs of Research, P.L. 87-638, September 5, 1962; (no code citation); Cooperative Research Projects, P.L. 88-250, December 20, 1963, (7 U.S.C. 450a); Public Law 69-799, March 4, 1927 (20 U.S.C. 191-194) which authorized the establishment and operation of the National Arboretum in Washington, D.C., and under the Food for Peace Act, Title IV, Section 406(4), p. 12, the Secretary of Agriculture is authorized to conduct research in tropical and subtropical agriculture.

3. Research on the use and improvement of soil, water, and air.--Research is conducted to improve the management of natural resources, including investigations to improve soil and water management, irrigation, and conservation practices, and to determine the relation of soil types and water to plant, animal, and human nutrition. The research includes studies on hydrologic problems of agricultural watershed and the application of remote sensing techniques in meeting agricultural problems. Research is also conducted on agricultural pollution problems such as protection of plants, animals, and natural resources from harmful effects of soil, water, and air pollutants, and ways to minimize and utilize industry processing wastes of agricultural commodities.

This research is authorized by the Department of Agriculture Organic Act of 1862 (5 U.S.C. 511) and the Research and Marketing Act of 1946, as amended (7 U.S.C. 427, 427i). Other laws covering specific research are under Sections 1-6 of the Soil Conservation and Domestic Allotment Act (16 U.S.C. 590 a-f), and under Section 76 of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 980). Public Law Number 88-379, July 14, 1964, covers the Water Resources Research Act (7 U.S.C. 301-308). Public Law 92-500, October 18, 1972, covers the Water Pollution and Control Act. Statutory authority affecting this and related pollution research programs includes the National Environmental Policy Acts of 1969 and 1970 (Public Laws 91-190 and 91-224), and such predecessors as the Water Pollution Control Acts (P.L.'s 84-660, 87-88, etc.), the Water Quality Act (P.L. 89-234), and the Clean Water Restoration Act of 1966 (P.L. 89-753). For further reference, see Secretary Hardin's Memorandum No. 1695, 33

U.S.C. 466 and seq., Section 2, P.L. 89-234. In addition, there is the Water Quality Improvement Act of 1970 (P.L. 91-224), the Air Quality Act (P.L. 90-148, S. 780, and Section 2, as amended in 42 U.S.C. 1857-18571), the Resource Recovery Act of 1970 (42 U.S.C.A., S. 3251 et seq.), the Refuse Act (33 U.S.C., Sections 407, 407a, 411), the Rural Development Act of 1972 (P.L. 92-419, and the Federal Water Pollution Control Act of 1972 (P.L. 92-500).

4. Research on marketing, use and effects of agricultural products.--Research is conducted to develop new and improved foods, feeds, fabrics, and industrial products and processes for agricultural commodities for domestic and foreign markets. Research is conducted on marketing of agricultural products. Studies concern the processing, transportation, storage, wholesaling and retailing of products, to reduce the costs of marketing, to maintain product quality, and to reduce losses from waste and spoilage.

Research is conducted on human nutritional requirements, composition, and nutritive value of food needed for consumers and for Federal, State, and local agencies administering food and nutrition programs.

Research is conducted on problems of human health and safety. Studies concern developing means to insure food supplies and products free from toxic or potentially dangerous residues from agricultural sources and processing operations, harmful chemicals, micro-organisms, and from naturally occurring toxins. The research conducted also includes studies concerning means to control insect pests of man and his belongings; prevent transmission of animal disease and parasites to man; reduce the hazards to human life resulting from pesticide residues, toxic molds, tobacco, and other causes; and, develop technology for the detection and destruction of illicit growth of narcotic-producing plants.

Research is conducted on consumer services to measure family use of resources, to identify economic problems of families; and to provide information on fabric performance and the use and care of clothing and household articles by consumers.

Research on housing is conducted to provide knowledge and technology to help bring about improved designs, material, and construction methods for both low-cost renovation and new construction of rural housing suitable for low-to-moderate-income rural residents.

This research is authorized by the Department of Agriculture Organic Act of 1862 (5 U.S.C. 511); Agricultural Adjustment Act of 1938 (P.L. 75-430), February 16, 1938; the Research and Marketing Act of 1946, as amended (7 U.S.C. 427, 427i), and Title 7, U.S.C., Agriculture, Chapters 17, 35, 38, and 55; The Agricultural Trade Development and Assistance Act of 1954 (7 U.S.C. 1691); Public Law 81-171, Agricultural Engineering Research (42 U.S.C. 1476); The Occupational Safety and Health Act of 1970 (P.L. 91-596) declared it to be the purpose and policy of the Congress to assure safe and healthful working conditions and to preserve our human resource, by (such means as) providing for research in the field of occupational safety and health, and by developing innovative methods, techniques, and approaches for dealing with the problems (Sec. 2). Standards, tolerances and regulations promulgated by USDA and other Federal departments under various statutes and dealing with food and natural fiber products, food additives, residues, and contaminants also support the USDA mission of consumer services and human resource development.

JUSTIFICATION OF INCREASES AND DECREASES

ARS is proposing a budget request for FY 1977 that represents a decrease of \$7.2 million. This total includes \$14.8 million for increased program requirements, \$3.5 million for program decreases and a decrease of \$18.5 million to eliminate non-recurring facility construction costs. The amount requested is consistent with the need for a responsible fiscal policy for FY 1977. Funding is requested only for those projects offering the greatest contributions to finding solutions to problems of higher priority in the USDA and in the national interest.

The list of high priority research needs was developed through an extensive review and evaluation process. The process limited new proposals to those which are most urgent and generally those which have a high probability of success over a reasonable time frame. New proposals were also limited to those areas where state and private institutions would be unlikely to undertake the same or similar research.

Federally financed research should provide for new technologies to increase productivity and decrease commodity costs. A large range of newly emerging urgent problems require technological answers. Such answers will help alleviate the severe demands currently placed on our food and fiber industry.

Several factors limit the effort of private research organizations to keep pace with changing technological requirements. As technology becomes more complex, it is becoming more expensive to discover and develop. Also private institutions often have difficulty recouping the costs of research that has large public benefits.

The reservoir of unused information has largely diminished as farmers have accelerated their rate of adoption of available new technology. ARS resources have to meet short-range urgent problems as well as long-term problems. Funding for research in new areas of photosynthesis efficiency and nutrient composition of foods was requested in FY 1976 and research initiated in these areas needs increased funding levels in order to achieve its long-run potential.

An evaluation of research results is made throughout the year to determine progress being made and redirect resources as appropriate. The ARS program was assessed throughout FY 1975 to improve its effectiveness and efficiency, and significant program redirections were made. Redirection plans were devised as a result of program reviews, workshops, and meetings with other agencies, universities, and private institutions.

This 1977 budget request has been designed to respond as quickly as possible to new and serious demands that have been placed on the U.S. food and fiber industries. There is increasing concern over the likelihood that the rate of flow of new technology production over recent years cannot be sustained. This concern is based on the: (1) general slippage in scientific capacity in the past 10 years due to inflationary costs, (2) higher average constant dollar costs in undertaking increasingly complex problems, (3) increasing demands to maintain and improve the environment, (4) increasing demands for safe and nutritionally acceptable foods, (5) increasing pressures placed on high yielding plants and animals by the environment, insect pests, and diseases, (6) new technology demands caused by high energy prices, use of marginal lands, consumers demands, and inability to use certain existing technology, (7) persistent and formidable yield barriers, and (8) erosion of technology reserves.

The proposed budget request will help expand food and fiber production and minimize agricultural commodity costs. The priority increases are discussed in the attached program packages organized on a problem oriented basis. Following the narrative on the packages, a crosswalk table is presented which links the packages to the budget projects.

- (1) An increase of \$1,199,000 to improve yields and quality of crops through increased research on nitrogen fixation, photosynthesis, and cell biology. (\$1,409,000 available in FY 1976)

The total increase of \$1,199,000 is for crop production efficiency research.

Objective: To develop an understanding of the biophysical and biochemical constraints that control (1) the capacity of plants, through the process of photosynthesis, to efficiently capture solar energy, (2) the capacity of plants and associated microorganisms to fix atmospheric nitrogen into a useful form, and (3) the quality of the photosynthetic products produced and to develop new methods to translate this understanding into germplasm capable of higher yields of better quality crops.

Need for Increase: The genetic capability of crop plants now being utilized in agriculture limits the efficient use of available soil, water, and energy resources. Only about one percent of the incoming solar radiation is transformed by photosynthesis into plant constituents like carbohydrates, proteins, and fats. Much of this fixed energy is not in the most useful form or is wasted in respiration. Biological nitrogen fixation, which also derives energy from photosynthesis, is of limited efficiency in legumes such as soybeans and is lacking in important crops such as wheat and corn. Manufactured nitrogen fertilizer now consumes over two percent of the natural gas produced in the U.S.; the energy shortage and high fertilizer costs dictate development of alternative sources of nitrogen. The fertilizer nitrogen we now use is responsible for at least 25 percent of our total crop product. Additionally, we must develop plants capable of producing abundant crops when subjected to the stresses of drought, salinity, and other hazards. Better methods to preserve and keep valuable germplasm free of diseases are needed. A modest success in any one of these research efforts could be the breakthrough we need to meet the food needs of the future. Since the value of research results would impact on almost all crops, the dollar benefits could easily be a hundred times more than the research costs. This area of research was rated fourth among all the topics considered by research users at the recent Kansas City Conference on research to meet food needs.

Plan of Work: The research on photosynthesis and nitrogen fixation will develop a more complete understanding of the sites, processes, and mechanisms involved in these fundamental processes. This knowledge is needed to guide genetic modification of plants through new techniques of cell and tissue culture which appear to possess great potential to enhance production potentials and to increase stress tolerance. This basic research will be conducted in various laboratories including the Beltsville, MD., Agricultural Research Center, the Russell Research Center, the Northern Regional Research Center, and others at Raleigh, NC., Gainesville, FL., Urbana, IL., and St. Paul, MN. Scientists from many disciplines will work together investigating ways to increase and exploit the biosynthetic potential of our major field and horticultural crops.

- (2) An increase of \$1,873,000 to increase yield and quality of food feed grains, oilseeds, cotton, fruits, vegetables and ornamentals, including technologies to meet climate variables. (\$5,808,000 available in FY 1976)

The proposed increase will be distributed by program as follows:

- (a) An increase of \$1,168,000 for crop production efficiency research.
- (b) An increase of \$705,000 for research on conservation and use of land and water resources, and maintaining environmental quality.

Objective: Increase yields and quality of production of selected crops that are important to human nutrition and well being by (1) improving crop protection against pests responsible for significant losses in yield and quality; (2) reducing crop susceptibility to losses from adverse climatic conditions; (3) improving crop efficiency for utilizing and conserving physical, chemical, and energy resources; (4) improving physical and economic efficiency of mechanized crop equipment; (5) improving nutritional composition and other quality traits through breeding and improved cultural practices; and (6) developing new information, techniques, and management strategies to promote optimal production under changing weather and demand patterns.

Need for Increase: The major part of the land resource base for crop production is already in use for that purpose. Supplies of certain other inputs such as water, nitrogen fertilizers, and some pesticides, are also reaching critical levels. Continued improvement of our productive capacity must come largely from improvement of the biological resources, or the crops themselves. Increase production may be achieved through the reduction of pests losses, reduction in mechanical and harvesting losses, increased efficiency in use of production inputs, improving crop adaptation under varying climates, and increasing crop yield and quality attributes. This increase proposal addresses on a crop-to-crop basis the priority problems with which each crop is faced and attempts to balance the total national program for each commodity.

Areas of research addressed in this increase relate primarily to increasing quantity and quality of production of crop commodities for both national and foreign consumption. Thus, they relate directly to world food needs through export and foreign aid programs. Indirectly, this same research can have a much more significant influence through the development of improved technology for sustaining high levels of production with limited resources. The U.S. cannot expect to continue current export levels for meeting world needs. However, the technologies generated for national production are transferable to other nations either directly, such as for protection technology and equipment, or indirectly through programs of adaptive research, such as incorporation of new sources of pest resistance into native varieties. These technologies are our first line of defense against world hunger and malnutrition.

Plan of Work: Proposed areas of research to promote production of selected crops are specified below.

Corn--New or improved methods will be developed to control the southwestern corn borer and other insects and to increase resistance of corn to insects and disease organisms, especially soil-borne pests.

Wheat, rice and other small grains--Specific weed control practices for control of wild oat will be developed for use in conservation tillage and management systems for small grains and other crops grown in the Pacific Northwest. Research will be initiated for selecting superior performance of rice cultivars on restricted N-fertilizer and other energy inputs. The analytic capabilities of the Rice Quality Laboratory, Beaumont, TX., will be expanded to accelerate selection of improved breeding lines. Research at the Grain Marketing Research Center will be expanded on grain standards adapted for automated assay systems.

Fruits--Research will be expanded on the causes and control of young tree decline of citrus, varietal improvement of pears, and reduction in costs and quality sustained in harvesting and handling deciduous fruits. The research will be conducted as appropriate at locations in Florida, the Middle Atlantic area, and Michigan.

Potatoes--Multidisciplinary research on potato production in Idaho will be augmented by new effort on viral diseases and physiological aspects of quality to help alleviate the decline in quality experienced during the last decade. Research on containment of golden nematode in New York will be increased.

Other vegetables--Improved controls for foliar and viral diseases of vegetables will be developed at Charleston, South Carolina, in conjunction with ongoing research on soil-borne diseases.

Nursery crops--Multidisciplinary research will be undertaken to develop improved production practices for nursery stock in support of the rapidly growing nursery industry in the South. The nursery research and education facilities of the National Arboretum will receive critically needed support to meet statutory obligations.

In addition to the crop-oriented research, new knowledge and technology will be developed for improved traction equipment and for sustaining agricultural production on fragile soils, forecasting and managing snowmelt runoff, predicting wheat yields under changing climatic conditions, and surveillance of soil moisture and other yield-limiting pest and climatic stress factors through remote sensing. This research will be conducted at the National Tillage Machinery Laboratory at Auburn, AL., and at selected locations in the Southwestern U.S.

- (3) An increase of \$656,000 for protection against genetic vulnerability of crops.
(\$2,410,000 available in FY 1976)

The total increase of \$656,000 is for crop production efficiency research.

Objective: Minimize the genetic vulnerability of field and horticultural crops to pests and adverse environmental stresses by (1) improvement of the germplasm base of each crop through expanded collection, maintenance, and evaluation; and (2) manipulation of germplasm to improve breeding stocks and accelerate development of resistant varieties.

Need for Increase: In 1972, the National Academy of Sciences issued a report recommending extensive research be conducted on the genetic vulnerability of major crops. In addition, in November 1973, an Ad Hoc Subcommittee of the Agricultural Research Policy Advisory Committee (ARPAC) recommended a concerted national effort to develop ways of improving our base of genetic resources. Areas recommended for remedial action by ARPAC were: (1) expansion of the germplasm base for all crops, (2) improvement of resistance in breeding stocks, (3) improved quarantine measures, (4) monitoring of pest populations, and (5) improved field practices for minimizing losses. ARS established a Germplasm Resources Committee for implementing these recommendations through priority scheduling.

The current proposal represents the third phase of continued improvement of germplasm resources in relation to the several areas identified in the ARPAC recommendations. It would (1) increase the support for expanding and protecting those germplasm collections having highest current priority, and (2) would permit concentrated efforts on improving resistance to priority pests in specific crops and on developing essential research in support of germplasm evaluation.

No area of research is more fundamental to world food issues than the genetic resources of crops. Either directly or indirectly these resources are the source of all food for man and other animals.

Plan of Work: Research will be conducted to broaden genetic knowledge and diversity of maize germplasm, and protect and preserve germplasm collections of sweet sorghum, pecans, barley, strawberries, bramble fruits, hops, mints, sunflower, tobacco, bamboo, and ornamentals. Intensified effort will be made to develop superior trees for urban plantings and to expand collection of endangered native plant species. Fundamental research on the molecular biology of viroids will be expanded and an effective collection facility improved to preserve plant virus collections in support of germplasm disease resistance research. Improved breeding

lines will be developed to improve resistance of corn and sorghum to downy mildew and disease and nematode resistance in grape and stone fruit rootstocks. Research will be conducted at locations appropriate for each crop species in Colorado, Georgia, Indiana, Maryland, Mississippi, North Carolina, North Dakota, Oregon, and Texas.

- (4) An increase of \$1,334,000 to develop safe and effective pest control technology for horticultural and field crops with emphasis on special uses. (\$4,293,000 available in FY 1976)

The proposed increase will be distributed by program as follows:

- (a) An increase of \$1,079,000 for crop production efficiency research.
- (b) An increase of \$50,000 for research on conservation and use of land and water resources, and maintaining environmental quality.
- (c) An increase of \$205,000 for research to improve human health and safety.

Objective: To develop new and innovative or improved materials and methods for controlling insects, weeds, and plant diseases, especially for special and minor uses.

Need for Increase: Research should be expanded immediately to develop new or improved selective pesticides especially for minor or special uses that are not hazardous to the environment and people. Development of biological control agents, especially introduction and release of beneficial parasites should be expanded. Introduction of parasites have been severely limited by available resources. Development of fundamental technology for insect and plant growth regulators should be expanded to support and accelerate development of pesticides to replace those that have been withdrawn from the market because of environmental hazards or to replace those that are hazardous or ineffective today. There is a need to accelerate the development of pest sex attractants and repellents and plants resistant to pests to meet immediate needs.

Problems that result from broad dependence on the use of pesticide chemicals include: increasing prices, association of these chemicals with pollution, development of resistance in pest species and the inadvertent destruction of beneficial species which prey on pests. Ideally, pesticide chemicals should be used as complements to natural control factors. To do this we must develop within the next 10 years technology as part of an integrated control pest management strategy. These include the development of new and improved uses of selective pesticides, biocontrol agents, insect and plant growth regulators, application of sex attractants and repellents, and host plant resistance.

The technologies developed by these research efforts are directly relevant to world food problems by increasing the efficiency of U.S. production. In addition, the control technologies could be readily transferred for adoption by developing nations to reduce the significant agricultural losses to pests. Much of the research effort on pest control is in direct support of government action agencies such as APHIS, Forest Service, SCS, EPA, and certain agencies of the Department of Defense.

Plan of Work: This research would encompass and emphasize (1) improvement of new, selective and environmentally safe control chemicals through formulations and application research of various types of pesticides and plant growth regulators; (2) development of new and unique types of insect hormonal compounds as safe, selective chemicals for control of insects and other agricultural pests; (3) development of attractants and other behavior altering chemicals for pest management programs; (4) expansion of research on importation of biological control agents; (5) determination of the biology and development of control strategies of insect pests of people, and (6) determination of the chemistry of host-plant

resistance. Research on development of improved pest control technologies is concentrated at Beltsville, MD., Gainesville, FL., and Davis, CA. This proposal would provide for consolidation of the research facilities now utilized in Europe and expand our overseas effort on importation of new biological control agents.

- (5) An increase of \$1,876,000 to increase supplies of high quality animal protein through research on production and disease and insect prevention and control. (\$13,693,000 available in FY 1976)

The total increase of \$1,876,000 is for animal production efficiency research.

Objective: Improve the efficiency of systems for production of beef, swine, sheep and poultry and production of forage to permit reasonable returns to producers as well as provide meat and animal products of improved quality but at decreasing costs to consumers.

Need for Increase: Population growth and steadily increasing consumption of meat indicate significantly greater requirements for beef and pork and some lamb by 1980 and even greater requirements by the year 2000. Accompanying reductions in production costs are needed to avoid high prices to consumers. The livestock industry harvests over 900 million acres of pasture and range and utilizes over 60 percent of feed grains and 38 percent of protein supplements produced in the United States.

High quality animal protein is an important part of the human diet, supplying almost 70 percent of the protein in the U.S. diets, and will become more a part of the diet throughout the world as the standard of living increases. Reproductive efficiency must be increased so that more feed resources go into growing of meat and less toward the maintenance of producing animals. Increased feed efficiency and use of non-competitive feeds will also reduce costs as feed represents the greatest cost in livestock production.

The efficiency of turkey meat production, which is presently low, could be substantially improved by increasing the reproductive performance of meattype turkey breeders. Lengthening the laying year, increasing the rate of egg production, and the long-term preservation of semen would do much to balance year-round production and reduce the cost per pound of turkey meat.

Although livestock and poultry account for nearly 50 percent of the farm income, ARS is only spending approximately 12 percent of the budget (or \$30 million per year) on animal disease research. Losses due to animal diseases are estimated to be in excess of \$2 billion annually. As our human and animal populations increase and animal numbers become more concentrated, the relative losses from disease can be expected to increase accordingly.

The request includes funds for bovine brucellosis. The Animal and Plant Health Inspection Service has indicated additional research is needed to provide improved technology to aid in the final eradication of this disease from the country. Other diseases including anaplasmosis, sarcocystis and mycotoxicoses as well as poisonous plants result in significant losses to livestock and poultry.

The request includes funds for research on screwworms to support the APHIS screwworm eradication program, a cooperative program between the U.S. and Mexico. Research will be expanded in order to concentrate on the control of numerous species of ticks and prevention of tick-borne diseases. Ticks continue to be a menace to livestock in the Southwest and pose a threat as disease carriers.

Plan of Work: Interdisciplinary research will be conducted by physiologists, chemists, nutritionists, and geneticists to provide increased research effort on reproductive efficiency, feed efficiency, and nutritive requirements of meat animals as affected by environmental factors and management practices. Consideration of the

quality of the resulting animal products will be a part of the research to improve production efficiency. Research to improve production efficiencies will be conducted at several locations including, U.S. Meat Animal Research Center, Clay Center, Nebraska; Dubois, Idaho; Georgetown, Delaware; and Beltsville, Maryland.

Increased effort in research and diagnosis of foot-and-mouth disease and other foreign animal diseases (including foot-and-mouth disease vaccines; survival of exotic disease viruses in meat products; and diagnostic and training support of regulatory programs) is proposed at the Plum Island Animal Disease Center. In support of Animal and Plant Health Inspection Service programs, research on brucellosis and anaplasmosis at the National Animal Disease Center, Ames, Iowa; and Beltsville, Maryland is planned. Studies of the screwworm will be conducted at Fargo, North Dakota, while the tick research will be conducted at Kerrville, Texas.

- (6) An increase of \$1,114,000 to improve and conserve soil, water, and air resources for expanding agricultural production and environmental protection. (\$16,632,000 available in FY 1976)

The proposed increase will be distributed by program as follows:

- (a) An increase of \$643,000 for research on conservation and use of land and water resources, and maintaining environmental quality.
- (b) An increase of \$471,000 for research on watershed development.

Objective: To develop cultural practices and cropping systems that will conserve soil, water, and energy resources for long-term crop and livestock production and simultaneously enhance the quality of the environment in agricultural and adjacent areas.

Need for Increase: The United States is richly endowed with soil and water resources ideally suited for production of agricultural products. Proper care and management of these resources is essential for supplying our own needs for food and fiber, helping achieve a balance between imports and exports, and meeting our social commitments to people in other countries that are less fortunately endowed. However, there are two constraints on use of our soil and water resources; (1) they must be conserved for sustained use, and (2) they must be used in a manner that will protect or enhance environmental quality.

Systems must be developed that allow the land and water resources to be used to the maximum of their capability within those two constraints. Over-use or misuse invites a depletion of the resources and a degradation of environmental quality. Furthermore, the human, financial, energy, and other resources devoted to agriculture are not likely to be increased. Farmland is being used for the disposal of urban and other wastes with possible impairment of soil and water resources. The proposed increases are needed to help meet these challenges. Federal agencies, states, as well as farmers and ranchers, have expressed a need for these kinds of information.

It has been suggested that a cleaner environment will cost us about \$275 billion in the next decade and ARS can do much to reduce these costs. Concurrently, production can be increased and the financial and energy costs of food and fiber for consumers can be reduced. These increases will be used to address several of the highest priority research needs identified by research users at the Kansas City Conference on research to meet food needs: Energy rated first; water, rated third; land, rated eighth.

Plan of Work: Research will be directed specifically at developing new and improved (1) watershed and crop management systems for different climatic zones that will prevent pollution from sediments and chemicals associated with agriculture or from human or animal wastes applied to the land, (2) water management methods and facilities that will enhance the quality of surface and subsurface water supplies

and allow more efficient use of water resources for farming or other beneficial uses, and (3) soil, water, and crop residue conservation procedures such as minimum tillage or "no-till" to protect farm and rangeland from erosion while increasing crop and livestock producing capabilities. Scientists trained in a variety of disciplines will develop and conduct field and laboratory experiments at the following locations: Stillwater and Chickasha, OK.; Sidney, MT.; Weslaco and Big Spring, TX.; Manhattan, KS.; Lafayette, IN.; Brawley and Riverside, CA.; Beltsville Agricultural Research Center, MD.; and Auburn, AL.

- (7) An increase of \$436,000 to improve production, use and quality of forages and grazing lands to support efficient meat and milk production.
(\$1,974,000 available in FY 1976)

The proposed increase will be distributed by programs as follows:

- (a) An increase of \$231,000 for crop production efficiency.
- (b) An increase of \$205,000 for animal production efficiency.

Objective: Improve yields, quality, pest resistance, adaptation and production practices for forages grown for hay, pasture, and other uses; and develop improved management practices for forage utilization in pasture and range livestock-grazing systems.

Need for Increase: Although ARS expanded its research efforts on forages and rangelands last year, the total effort in these areas is inadequate to meet present and future needs. Further expansion is needed to improve and manage all major ecosystems of western rangelands. Pasture improvements must also be designed separately for major geographical and climatic areas. Forage breeding to achieve these ends is a time-consuming process that should be initiated now to achieve results in 5 to 10 years.

Although this proposal is directly concerned with meeting domestic demands for meat, it supports technology related to other world issues. Increased use of forages in meat animal production will spare feed grains and protein-rich supplements for export. The technology is transferrable to developing nations to increase food production on marginal lands where none is feasible at the present time.

Plan of Work: Research will include studies of genetic and environmental determinants of quality traits and composition of forages at the U.S. Regional Pasture Laboratory, University Park, Pennsylvania. Research in the Western United States will include evaluation of physiological responses of grasses to drought and salinity stresses, expanded research on ruminant utilization of non-competitive feedstuffs, and integrated forage-livestock management systems to improve livestock production on arid rangelands of the Intermountain area. Livestock production will involve beef cattle and sheep at selected locations in Maryland, Idaho, and Nevada.

- (8) An increase of \$750,000 to improve human nutrition and food safety, and determine nutrient availability in foods.
(\$1,336,000 available in FY 1976)

The proposed increase will be distributed by program as follows:

- (a) An increase of \$203,000 for research on conservation and use of land and water resources, and maintaining environmental quality.
- (b) An increase of \$196,000 for research to improve human health and safety.
- (c) An increase of \$351,000 for food and nutrition research.

Objective: Expand research to improve human nutrition and insure the safety of the food supply.

Need for increase: Available information on the nutrient content of foods is inadequate for present needs. The advent of nutritional labeling and efforts to establish a National Data Bank have focused attention on the lack of data on both foods and nutrients and the unsatisfactory state of analytical methods of nutrient analyses of foods. For many nutrients, there are no satisfactory analytical procedures for food analyses.

Essential minerals must be provided from food supplies, but this is not always being met. Marginal deficiencies of zinc, iron, and chromium have been noted in the diets of different population groups. Data are lacking regarding the amounts in foods and the bioavailability of the different forms occurring in foods. Much nutrient data has become obsolete as a result of changes in agronomic practices, new varieties, new processing methods, and changes in warehousing and transportation methods.

Recent FDA regulations on food are aimed at preventing wide variations in levels of nutrients in food crops and in reducing the levels of naturally occurring toxicants and adventitious mycotoxins. ARS must develop more definitive and more rapid means for identifying these toxins and develop methods for their elimination from the food supply. Little or no information is available on the resistance of food crops to toxigenic fungi and the importance of insects as a vector in the spread of these organisms.

Plan of Work: The major thrusts to be undertaken will be the evaluation of nutritional composition of new and processed agricultural products, determination of human requirements of nutrients, identification of natural toxicants and development of new methods for prevention of toxin production in food plants. The Nutrition Institute (NI), Beltsville, Md., will undertake research to fully support the Nutrient Data Center that has been established. At NI and the Northern Regional Research Center (NRRC), Peoria, Ill., joint studies will be undertaken on human requirements for polyunsaturated acids. Information bearing on human requirements for minerals will be developed at the U.S. Plant, Soil and Nutrition Laboratory, Ithaca, N.Y., in connection with investigations of mineral metabolism in plants and animals. On the problem of toxicants, NRRC will study the identification and monitoring of these substances in horticultural crops. The Southern Grain Insects Research Laboratory, Tifton, Ga., will focus on the role of insects as carriers of toxigenic fungi and development of corn genotype with resistance to these fungi.

(9) An increase of \$140,000 for tropical and subtropical agricultural research.

(\$529,000 available in FY 1976.)

The total increase of \$140,000 is for tropical and subtropical agricultural research.

Objective: To preserve the World Sugarcane Germplasm Collection and protect world and U.S. crops against fruit fly infestations.

Need for Increase: Sugarcane provides most of the world's sugar and meets about half of U.S. sugar needs. It is vital to insure the genetic base of this crop and provide disease-free stocks to growers. The World Germplasm Collection must be moved to a location that is climatically suitable but isolated from diseases and pests. For example, that part of the collection at the Beltsville Agricultural Research Center is losing about 20 clones per year because of low light intensity and short days during winter. Also, energy costs for greenhouses are great. An expedition to collect and preserve germplasm from New Guinea and surrounding islands will add new germplasm to the collection next spring, which will magnify the need for a suitable site. Also of critical importance to U.S. and world

agriculture is development of control technologies for control of the fruit fly. Several species are serious pests in the Western Hemisphere and some such as the Caribbean, Mexican, Oriental, Mediterranean and South American fruit flies pose great threat to domestic crops. Crop destruction would be explosive if one of these species were introduced into a new environment.

Plan of Work: Clear and prepare 20 acres of land at the U.S. Subtropical Horticultural Station at Miami. Transfer all clones there, including new clones following quarantine and place them under the supervision of professional staff of the Sugar-cane Field Station at Canal Point. Develop a combination of technologies for controlling or eradicating fruit fly populations. Techniques to be researched will include parasite release, use of attractants, release of sterile insects, and application of bait groups. Studies will be conducted at isolated areas such as Hawaii or Central America.

- (10) An increase of \$500,000 to support Animal and Plant Health Inspection Service (APHIS) on boll weevil eradication and concurrent pest management trial programs. (\$3,368,000 available in FY 1976)

The total increase of \$500,000 is for crop production efficiency

Objective: Expand research on boll weevil to furnish necessary support for APHIS in their boll weevil eradication and concurrent pest management programs.

Need for Increase: An appropriation increase of \$500,000 is needed for Fiscal Year 1977 to enable ARS to furnish APHIS the research and pest management support necessary for these programs.

Plan of Work: To support the concurrent boll weevil trial eradication and pest management program in the following areas: (1) collecting, processing and evaluating data on the efficacy and environmental impact of the trials; (2) research on chemical termination to prevent regrowth as a supplement to stalk destruction in high rainfall areas; and (3) research on the economic threshold and decision-making technology. Field work will be conducted in North Carolina on trap design, field eradication, and pheromone testing and production.

Other agencies of the Department will be asked to cooperate, and funds may be provided, to monitor a voluntary Pest Management Control Program and to coordinate research efforts with the State Experiment Stations concurrently with the Animal and Plant Health Inspection Service's Trial Eradication Program.

- (11) An increase of \$1,656,000 for repair and maintenance of facilities.

Objective: To initiate a long-term program to restore ARS facilities to appropriate standards and to meet Occupational Safety and Health Administration requirements.

Need for Increase: An appropriation increase of \$1,656,000 is needed for Fiscal Year 1977 on a recurring basis to bring facilities up to standards and to meet Occupational Safety and Health Administration (OSHA) requirements. Heretofore, funds have not been appropriated for the specific purposes of restoring and maintaining facilities to their proper condition, and immediate needs have been met by redirecting resources from ongoing research programs. This procedure is becoming more difficult to accomplish as other pressing operating needs vie for the same scarce program dollars and resources now available can only provide for the most critical needs. Resources are not available to carry-out a much needed maintenance program to assure that Agency-owned facilities are in compliance with Occupational Safety and Health Standards; to preserve the integrity and appearance of the facilities; to prevent the loss of Federal property; or, to renovate existing facilities to meet changing requirements in performing research.

The severity of the current status of ARS facilities has been verified by a recent study conducted by the Department. A sample of 34 facility locations was surveyed regarding the repair and maintenance condition of facilities. Of the 34 locations covered by this survey, 13 are major or large facilities. The remaining 21 locations represent a good sampling of the total Federally owned ARS facilities. The results of this study are as follows:

<u>Category</u>	<u>Satisfactory (%)</u>	<u>Unsatisfactory (%)</u>	<u>Safety Hazard (%)</u>
Area and grounds	40	33	27
Exterior buildings	21	67	12
Interior buildings	34	45	21
Plumbing	64	24	12
Heating, ventilation of air conditioning	52	39	9
Electrical	70	6	24
Painting	43	57	--
Other (insect damage, etc.)	67	24	9
AVERAGE SCORE	49	37	14

As indicated, over 50 percent of the facilities are in less than adequate condition and in need of attention. Further delay in meeting these needs will only accentuate the necessity later at a higher cost due to further deterioration and higher prices--or even require constructing replacement buildings.

ARS laboratories are in a very poor state of repair. The majority of these buildings are fairly old; many have safety hazards and most need a number of significant repairs. Putting off repairs frequently results in significantly higher decay and higher repair costs in the long-run. Spiraling cost for materials and construction related work has been documented over the years in revised construction limitations contained in the Agency's appropriation language. These revisions were presented and justified by the Department and approved by the Congress. Although repairs and maintenance are not confined to these restrictions, the rising prices are applicable. The chronology of these revisions is reflected below:

	<u>FY 1971</u>	<u>FY 1972- 1974</u>	<u>FY 1975- 1976</u>	<u>FY 1977 Est.</u>	<u>Percent Increase 1977 Over 1973</u>	<u>Percent Increase 1977 Over 1971</u>
"Cost of Con- structing any one building not to exceed" ..	\$25,000	\$40,000	\$ 50,000	\$ 65,000	63	160
"Except for six buildings, not to exceed"	55,000	80,000	100,000	125,000	56	127
"Alterations, not to exceed" ..	7,500	15,000	15,000	25,000	67	233

Plan of Work: The amount requested for Fiscal Year 1977 represents the minimum level of funding necessary to effectively initiate a long-term program to restore our facilities to an acceptable level. This estimate is based on a survey of all research facilities to determine specific needs in the program planning period. The survey information can be used as the basis for implementing a repair and maintenance program in a timely and orderly manner and insure that Agency-owned facilities are maintained at acceptable levels. An adequately financed scheduled maintenance plan will assure that safety requirements are satisfied; that hazardous and unsafe working conditions are corrected; and that changing research program requirements are satisfied.

- (12) An increase of \$2,955,000 for annualization of pay increases effective in FY 1976.
(\$6,629,000 available in FY 1976)

- (13) An increase of \$304,000 for space rental costs pursuant to P.L. 92-313.
(\$1,758,000 available in FY 1976)

Need for Increase: Pursuant to P.L. 92-313, the Agency is required to budget for costs associated with occupied GSA controlled space. The 1976 Appropriation Act again limited the Department to paying 90 percent of the Standard Level User Charge used in computing the 1976 request. The funds requested in the 1977 Budget would (1) restore the full financing necessary to meet estimated billings provided by the General Services Administration, and (2) provide for additional general rate increases anticipated during FY 1977.

- (14) A decrease of \$1,500,000 due to the termination of dairy herd improvement.
(\$1,500,000 available in FY 1976)

The total decrease of \$1,500,000 is for animal production efficiency research.

The decrease would terminate the Department's responsibility for producing and disseminating genetic appraisals of dairy sires and cows. The Department will work with the National Cooperative Dairy Improvement Association to assure there is a smooth transition of functions and no adverse effect on the program. The decrease reflects the Agency's continued efforts to transfer operational responsibility for proven projects and programs to the private sector.

- (15) A decrease of \$2,000,000 in marketing efficiency research.
(\$52,046,000 available in 1976)

The proposal results from the intention to eliminate those projects which can be conducted by industry and the need to redirect scarce Federal resources to highest priority projects and, to eliminate projects which have the lowest priority in the areas of food and fiber storage, processing, transportation, distribution and new product development. In selecting projects to reduce or terminate, emphasis will be given to those areas where private industry has or could develop strong research and development efforts.

- (16) A decrease of \$10,395,000 to eliminate non-recurring facility items.
(\$10,395,000 available in FY 1976)

Need for Decrease: The 1977 Budget Estimates provide for a decrease of \$10,395,000 to eliminate non-recurring amounts provided for construction of facilities in 1976. These funds are available until expended and therefore not included in the FY 1977 request.

Following is a cross-reference table relating the proposed increase packages to budgetary projects.

Cross Reference of Proposed Increases and Decreases to Budgetary Projects
(Dollars in Thousands)

Proposed Increases (Packages)	Budgetary Projects												
	Total Request	Animal Production Efficiency	Crop Production Efficiency	Tropical and Subtropical Agriculture	Conservation and Use of Land and Water Resources	Watershed Development	Marketing Efficiency	Expand Agri- cultural Exports	Food and Nutrition	Improve Human Health and Safety	Consumer Services	Housing	Support Services for Other USDA Agencies
Improve yields and quality of crops through increased research on nitrogen fixation, photosynthesis, and cell biology	1,199		1,199										
Increase yield and quality of food and feed grains, oilseeds, cotton, fruits, vegetables and ornamentals, including technologies to meet climatic variables	1,873		1,168		705								
Protection against genetic vulnerability of crops	656		656										
Develop safe and effective pest control technology for horticultural and field crops with emphasis on special uses	1,334		1,079		50					205			
Increase supplies of high quality animal protein through research on production and disease and insect prevention and control	1,876	1,876											
Improve and conserve soil, water, and air resources for expanding agricultural production and environmental protection ..	1,114				643	471							
Improve production, use and quality of forages and grazing lands to support efficient meat and milk production	436	205	231										

Cross Reference of Proposed Increases and Decreases to Budgetary Projects
(Dollars in Thousands-continued)

Proposed Increases (Packages)	Total Request	Animal Production Efficiency	Crop Production Efficiency	Tropical and Subtropical Agriculture	Conservation and Use of Land and Water Resources	Watershed Development	Marketing Efficiency	Expand Agri- cultural Exports	Food and Nutrition	Improve Human Health and Safety	Consumer Services	Housing	Support Services For Other USDA Agencies
Improve human nutrition and food safety, and determine nutrient availability in foods	750				203				351	196			
Tropical and subtropical agricultural research	140			140									
Research to support Animal and Plant Health Inspection Service trial program on eradication and control of boll weevil	500		500										
Repair and maintenance of facilities	1,656	315	599	4	144	60	363	16	64	86	4	1	
Annualization of pay increases effective in FY 1976	2,955	609	1,080	3	273	122	605	20	101	131	6	3	2
Payment to GSA for rental of government- owned or leased space	304	57	98		30	23	65	2	14	10	4	1	
Dairy herd improvement	-1,500	-1,500											
Marketing research	-2,000						-2,000						
Total Proposed Increases	11,293	1,562	6,610	147	2,048	676	-967	38	530	628	14	5	2

STATUS OF PROGRAM

The Service is a mission-oriented agency concerned with research to insure an abundance of high quality and reasonably priced agricultural products to meet the needs of an expanding domestic and world economy, and contribute to continued improvement in the American standard of living. The Service uses coordinated, interdisciplinary approaches to conduct basic, applied, and developmental research in the fields of livestock, plants, soil-water-and-air resources, environmental quality, marketing and use of agricultural products, food and nutrition, consumer services, rural and international development, and agriculturally related health hazards, including food safety.

Research is conducted at numerous locations in the States, Puerto Rico, Virgin Islands and in several foreign countries. Much of the research is conducted in cooperation with the State agricultural experiment stations, other State and Federal agencies, and private institutions.

RESEARCH ON ANIMAL PRODUCTION

Current activities: Research is conducted to improve and increase the production of livestock and livestock products through improved genetic and reproductive capacity, feeding and management practices and to develop better methods for controlling diseases, parasites, insects and other pests, and hazards.

Prices and consumption of livestock and livestock products have risen very rapidly in the past several years, and a continuing rise can be expected. This is not only true in the United States, but worldwide. Consequently, there is a need for new technology to enable livestock producers to achieve greater production to meet the demand and at the same time reduce their costs. As these lower costs are passed on in the market place, consumers will benefit.

Selected examples of recent progress: A description of these examples follows this index.

Animal Production Efficiency Research

- | | |
|--|---|
| 1. Zinc Supplemented Diets Increase Weight of Range Cattle | 7. Methods Developed to Reduce Loss to Poultry Respiratory Disease |
| 2. Control of Horn Flies from Cattle | 8. Potential Control Method Developed for Calf Parasitic Disease |
| 3. Foot-and-Mouth Disease Vaccine from Fraction of Virus Particle | 9. Twice-A-Year Lambing Research has Increased Lamb Production 40 Percent and Experimental Flocks |
| 4. A new Chemical Detoxification Mechanism | 10. Improved Selection Procedures Reduces Calving Difficulties for Beef Cattle |
| 5. Beltsville Developments May Revolutionize Artificial Insemination of Swine and Chickens | 11. Important Causes of Swine Reproductive Failure Identified |
| 6. Earlier and More Accurate Genetic Evaluation of Dairy Bulls and Cows | |

Animal Production Efficiency Research

1. Zinc Supplemented Diets Increase Weight of Range Cattle. ARS scientists at Kimberly, Idaho, found that both cows and calves receiving zinc supplements in their diets gained significantly more weight each day than

did animals receiving no zinc. Cows receiving the zinc supplements during the 6 months test period gained an additional 40 pounds. Zinc-receiving calves gained 18 pounds more than calves with inadequate zinc diets. This weight-gain response shows that range cattle do not obtain adequate zinc in their normal diet, and are hampered in their growth because of it. If only 10 percent of the 23 million beef calves raised in the 17 Western states received zinc supplements to their diet, there could be an additional 45 million pounds of beef on the market each year.

2. Control of Horn Flies from Cattle. A drinking-water treatment effectively controlled larvae of the horn fly in the manure of 600 head of cattle on the island of Molokai, Hawaii. Sterile horn fly males were reared and irradiated at the U.S. Livestock Insects Laboratory, Kerrville, Texas, and were shipped to Hawaii and released in the cattle grazing area, at the rate of about 1.5 million per week. The combination of the treatment and release over a 15-week period reduced the reproduction of native horn flies to zero. Ten weeks after the end of the release, cattle on the ranch still did not have horn flies. This technology is applicable for horn fly control in areas where these insects are a problem on beef and dairy animals. Horn flies cause an estimated annual loss of \$35 million to the beef and dairy industry in the United States.
3. Foot-and-Mouth Disease Vaccine from Fraction of Virus Particle. For the first time, foot-and-mouth disease (FMD) vaccine has been made from a fraction of the protein coat of the FMD virus rather than from the whole infectious virus. This vaccine is a milestone in FMD research because for the last 40 years all FMD vaccines have been made from the entire virus particle that includes the internal infectious nucleic acid. Often, vaccinated animals have become infected due to the fact that the inactivation process did not kill the infectious nucleic acid of the virus. Based on this research, future vaccines may be made from fractions of a single virus protein and may even be synthesized. This research opens new avenues for the control of foot-and-mouth disease which poses a constant threat to the livestock industry of the United States. In addition, it is feasible that similar safe vaccines can be produced for some human virus infections such as polio.
4. A New Chemical Detoxification Mechanism. ARS Scientists at College Station, Texas, have discovered a new chemical reaction that renders potentially dangerous compounds harmless and may contribute to the understanding of chemically induced cancer. Some chemical compounds have a peculiar structure in the molecule called an "epoxide," a number of cancer-causing compounds have this structure. Ruminants--cattle or sheep--apparently have an enzyme in their digestive systems that can change this potentially dangerous "epoxide" to a non-dangerous chemical form called an "olefin." Historically, there are 4 other known chemical methods of detoxifying poisons; each method has been of great value in treating toxicity and in understanding the mechanism of action. Since these chemical reactions are the only known way that poisons in animals or people are rendered harmless and excreted, this newly discovered method adds a new dimension in metabolism, detoxification, and excretion. Additionally, this chemical discovery may prove of even greater value in understanding the mechanisms of cancer-causing chemicals.
5. Beltsville Developments May Revolutionize Artificial Insemination of Swine and Chickens. Frozen semen from genetically superior boars is now being commercially marketed both in the U.S. and abroad. An extender and a freezing method for poultry semen has great commercial demand. Both the

freezing and thawing methods and the semen extenders were developed at the Beltsville Agricultural Research Center. The freezing of boar semen makes possible the widespread use of superior boars with outstanding records of feed efficiency and growth rates, thereby making pork production more efficient. Before development of the Beltsville method, boar semen could not be successfully stored frozen. Thus, pork producers had to keep their own boars, severely limiting the use of superior animals. In poultry, the use of the semen extender developed at Beltsville allows insemination of up to 300 hens from the ejaculate of one rooster compared to 50 hens using undiluted semen. Under natural mating conditions one rooster is needed for every 10 hens. Use of the extender allows greater genetic progress and more efficient broiler production since fewer males need be kept and less feed is consumed. The freezing procedure for chickens' semen is satisfactory for foundation lines and expected improvements will allow its use for commercial production.

6. Earlier and More Accurate Genetic Evaluation of Dairy Bulls and Cows. The new USDA-Dairy Herd Improvement Association Modified Contemporary Comparison, a method of evaluating dairy bulls and cows, was implemented to provide complete and unbiased estimates of genetic producing ability for approximately 20,000 dairy bulls and over 750,000 dairy cows. This new procedure enables the identification and use of genetically superior bulls 6 to 8 months earlier in their life than was previously possible. The primary impact of this entire program is the identification of genetically superior bulls for use in artificial insemination (AI). Through the use of USDA genetic evaluations the average genetic superiority of these bulls has been increased from 122 pounds of milk in 1966 to 452 pounds of milk in 1975. Over one-half of the dairy cattle population of the United States is presently being artificially bred by these bulls. It is presently estimated that dairymen are benefiting by approximately \$265 million in extra income over feed costs from the use of the genetically superior bulls identified through this program. This program has also had a major impact on the increases in export of dairy cattle and bull semen. Now that the program has been successfully developed, ARS is planning to shift the program responsibility to industry in 1977. Such a transfer would have industry maintaining the necessary data.
7. Methods Developed to Reduce Loss to Poultry Respiratory Disease. Airsacculitis, an inflammation of the air sacs in chickens' lungs, resulted in the condemnation at slaughter of over 8 million broilers in 1974. This inflammation is primarily due to a bacteria infection in conjunction with some respiratory viruses. Condemnation records clearly show that the incidence of airsacculitis increases in the winter months. Research clearly indicates that the condemnations due to airsacculitis in infected broilers may be reduced in winter months by increasing the temperature in the poultry house. These relationships provided evidence that environmental conditions play an important role in the development of airsacculitis. Recent studies at the ARS Southeast Poultry Research Laboratory, Athens, Georgia, have defined the influence of temperature and humidity on this disease. Research showed that infections were reduced from 45 percent to 9 percent by increasing the temperatures from 45 degrees to 90 degrees, whereas, humidity had minimal influence on the incidence of the disease.
8. Potential Control Method Developed for Calf Parasitic Disease. Research at the ARS Regional Parasite Research Laboratory in Auburn, Alabama, has resulted in the development of a potential biological agent for the control of bovine coccidiosis, a disease that weakens or kills calves between the ages of 3 weeks to 6 months. This biological agent, prepared from

animals surviving coccidiosis, is called the bovine "transfer factor." "Transfer factor" is a different type of immunity from the normal vaccination procedure. It stimulates or enhances immunity regulated by the cells themselves. Transfer factor treatment was found to reduce the severity and mortality of the disease when given to experimental animals before infection. These findings indicate the potential use of this biological agent, bovine "transfer factor," in controlling this parasitic disease that causes heavy economic losses to the livestock industry of about \$60 million yearly. Since human "transfer factor" has been found to control many human diseases, bovine "transfer factor" may also be useful in controlling other parasitic and nonparasitic diseases.

9. Twice-A-Year Lambing Research has Increased Lamb Production 40 Percent and Experimental Flocks. By treating ewes, who have recently given birth, with a saturated sucrose solution, twice-a-year lambing can become a practical reality. Administering a saturated sucrose solution enhances sperm passage in the reproductive tract of ewes. ARS scientists at the U.S. Sheep Experimental Station, Dubois, Idaho, have experimentally achieved a 40 percent increase in production and prospects are excellent for additional increases. One of the principal costs for livestock production is the maintenance of breeding stock. If sheep can give birth to lambs twice a year instead of once, the producers' cost per unit of production will be dramatically reduced. The cost reduction will enable producers to increase their volume which in turn benefits the processors and increases their efficiency. The reduced costs and increased efficiency of both producer and processor will mean lower prices for the consumer.
10. Improved Selection Procedures Reduces Calving Difficulties for Beef Cattle. Decreased emphasis on birth weight in selecting cattle for breeding should reduce problems associated with calf size at birth like calving difficulty and mortality at or near birth. Calving difficulties are especially important under range conditions where assistance during calving is not practical. About a 1 percent increase in birth weight increases the new calf cost about \$2 due to greater calf mortality and calving difficulty. A study at the U.S. Meat Animal Research Center, Clay Center, Nebraska, indicates selection for an index that encourages yearling weight and discourages birth weight would make it possible to continue to increase yearling weight, an important economic trait, with little change in birth weight.
11. Important Causes of Swine Reproductive Failure Identified. ARS scientists at the National Animal Disease Center have identified the swine virus, porcine parvovirus, which may be one of the most economically important infectious causes of swine reproductive failure. If sows or gilts are exposed to porcine parvovirus during gestation, the virus may move via the placenta to the fetus and cause its death. Many of these reproductive failures have previously been unexplained. Reliable and sensitive procedures have been developed at NADC for diagnosing reproductive disease induced by porcine parvovirus, and control appears feasible.

In additional studies, pseudorabies (a virus disease that can infect most mammals) is another disease that causes a significant number of reproductive failures and death of newborn pigs. Recently, a test has been perfected which causes a hypersensitive reaction in positive pigs similar to that of the tuberculin test in humans or cattle. This appears to be a specific test for pseudorabies and should be a great help in the recognition, control, and eradication of swine infected with pseudorabies.

RESEARCH ON PLANT PRODUCTION

Current activities: Research is conducted to improve productivity and quality of food, feed, forage, and fiber crops; florist and nursery crops; and turf. Emphasis is on research to improve genetic stocks and varieties, increase yields and quality of crops, improve mechanization and crop production practices, enhance environmental quality, and improve crop protection technology, including biological and chemical methods to control diseases, nematodes, insects, and weeds, and to alleviate the effects of adverse environmental conditions through hardier plants. Both research and training are carried on in related areas of tropical and subtropical agriculture.

The need for an ever increasing supply of wholesome nutritious foods and desirable fibers at lower prices is a national problem. Considering the broad array of soil and climatic conditions throughout the United States, and the large number of economic crops, there is a need for a multidisciplinary research approach to developing new basic concepts to achieve these goals.

The quality of our environment can be improved by the development, appropriate use, and care of attractive shelterbelt screening, ornamental trees, shrubs, turf, ground covers, and flowers. There are an estimated 75 million acres of cropland affected by wind erosion, the adverse effects of which could be reduced by shelterbelt screening. New knowledge to preserve attractive and eliminate unattractive environmental conditions is needed by rural and urban property owners throughout the nation.

Selected examples of recent progress: A description of these examples follows this index.

Plant Production Efficiency Research

- | | |
|--|---|
| 1. Natural Enemies Established to Control Two Serious Weed Pests | 11. Sugarbeet Breeding Lines Developed with High Rhizoctonia Root Rot Resistance |
| 2. Mediterranean Fruit Fly on Lanai, Hawaii, Controlled in Pilot Study | 12. Method for Control of Parasitic Wasp Saves Leafcutter Bee |
| 3. Increased Protein, Bred into New Wheats | 13. Candidate Insecticides Effective Against Insecticide Resistant Tobacco Budworms on Cotton |
| 4. New Spinach Varieties Resistant to Leaf Diseases and Freeze Damage Released for Commercial Production | 14. Sorghum Hybrids Resistant to Greenbugs Will be Available Commercially in 1976 |
| 5. A New, Superior Potato Variety Developed | 15. Wasps Used to Control Alfalfa Weevil in the Northeast |
| 6. Genetic Vulnerability of Corn Reduced | 16. Biological Control Agents Show Promise Against Disease-Bearing Mosquitoes |
| 7. Continued Improvement Made in Rust Resistance of U.S. Wheats | 17. Insect Growth Regulators Coming into Commercial Use |
| 8. New Biological Methods Control Tobacco Diseases | 18. Research Doubles First Line of Defense Against Corn Borer |
| 9. Superior Strains of Nitrogen Fixing Bacteria Increase Yields of Soybeans | 19. Improved, Less-Costly Mosquito Control |
| 10. New Type of Plant Pathogen Discovered | 20. Hybridizing American Elm With Other Elm Species |

Tropical and Subtropical Agricultural Research

- | | |
|--|--------------------------------------|
| 21. Germplasm Maintenance and Distribution | 23. Evaluation of Plantain Varieties |
| 22. Improved Tropical Production of | and Development of Production |
| Beans and Cowpeas Through Disease | Techniques |
| and Insect Control | |

Plant Production Efficiency Research

1. Natural Enemies Established to Control Two Serious Weed Pests. Biological control of Russian thistle (tumbleweed) and halogeton, a toxic weed closely related to Russian thistle, may be possible because of a moth, Coleophora parthenica, introduced from Pakistan by ARS scientists at Albany, California. In 1973, the Agency, through its Biological Control of Weeds Laboratory at Albany, established the moth along highway rights-of-way in California in an attempt to control the costly, bothersome, unsightly, and sometimes dangerous thistle. The moth has since become well established at several field sites and is beginning to show promise for control. The insect feeds only on Russian thistle and closely related weeds. Attempts are now being made to establish it on halogeton. If the moth can be successfully established on a large scale, it will benefit farmers and ranchers, as well as highway and water resource departments that are responsible for Russian thistle control. The weed costs California taxpayers alone more than \$500,000 a year in highway maintenance costs and countless millions of dollars throughout the country. Russian thistle is a widespread weed of the western and midwestern U.S. It serves as a favored alternate host plant for the beet leafhopper, which transmits "curly top virus" to sugarbeets, tomatoes, melons, and many other crops. Halogeton infests millions of acres of semiarid rangeland in the western U.S. This plant is toxic to livestock, particularly sheep, and thus infested rangeland is rendered almost useless for livestock production.
2. Mediterranean Fruit Fly on Lanai, Hawaii, Controlled in Pilot Study. Over 99 percent reduction in native Mediterranean fruit fly (medfly) population on Lanai was obtained as a result of sterile medfly releases at the rate of about 20 million per week by ARS scientists. The resulting high suppression level has been maintained for 6 months with aerial drops of sterile pupae. No medflies were recovered from a total of 10,000 guava fruits between February and May 1975. Native fly movement from Maui to Lanai has been confirmed but, if complete isolation were possible, the medfly would have been eradicated from Lanai. In case of an outbreak, the method can be used to eradicate the medfly anywhere it might occur in the U.S. and protect the fruit industry from this insect. Value of the Hawaiian fruit crop, excluding pineapples, amounts to about \$7 million. The absence of fruit flies, it is speculated, could bring that total to perhaps \$23 million.
3. Increased Protein, Bred into New Wheats. New varieties of wheat that eventually may contribute significantly to the nutritional status of about a third of the world's people who depend on wheat as a major source of calories and protein have been developed cooperatively by ARS and State agricultural experiment stations. A hard-red winter wheat variety, Lancota, developed at Lincoln, Nebraska, has inbred potential for high yields of grain possessing 10 to 20 percent more protein than ordinary wheats. The protein is in the part of the grain made into white flour, so it will not be lost in the milling process. Lancota has excellent milling and baking properties and does not depend upon use of nitrogen fertilizer for higher grain protein. It would provide about 100 million more pounds of protein each year if grown on all of Nebraska's wheat acreage. Kitt,

a semidwarf hard red spring variety developed at St. Paul, Minnesota, produces 14 percent more protein per acre than the variety Era. If grown on the acreage devoted to Era in 1974, Kitt would provide about 72 million additional pounds of protein. Kitt has the same high yield potential as Era, which yields 15 to 30 percent more grain than previously grown tall varieties. An experimental durum wheat, developed at Fargo, North Dakota, yields semolina (flour) with 2 to 3 percentage points higher protein content and greatly increased dough strength. This variety may overcome objections of Italian spaghetti and macaroni manufacturers who have criticized the low gluten-protein content of present durums imported from the United States. The new durum wheat may also be suitable for bread.

4. New Spinach Varieties Resistant to Leaf Diseases and Freeze Damage Released for Commercial Production. New spinach varieties (Wintergarden, Jewel, and Crystal), resistant to white rust, were released for spinach production areas of Texas where white rust disease is a perennial production problem. Field trials showed that these white rust resistant varieties are adapted to the Arkansas-Oklahoma and Tennessee spinach production areas. Wintergarden, Jewel, and Crystal are also highly resistant to 2 races of blue mold and to freeze damage. All 3 varieties are suited to machine harvesting and leaf quality is excellent for the fresh market, canning, and freezing. In yield trials without using a fungicide during 2 years at Crystal City, Texas, all 3 varieties each produced in excess of 10 tons per acre of prime spinach, while commercially grown entries were not marketable due to white rust disease. At an average price of \$13 per hundred weight, the new varieties provide a potential value of \$2,600 per acre to the producers.
5. A New, Superior Potato Variety Developed. Atlantic, a new potato variety with many superior qualities, yields 30 to 70 hundredweight more per acre than varieties currently grown in Florida, Virginia, New Jersey, and Maine. Preliminary trials indicate that Atlantic is also adapted to Alabama, California, Ohio, and Wisconsin. Atlantic is highly resistant to some of the worst pests of potatoes, including the golden nematode, virus X, race 0 of late blight, and tuber net necrosis. It is also tolerant to scab and leafhopper feeding. Specific gravity of the potatoes is unusually high, a measure of the high quality necessary for potatoes to be used successfully in processed products. Accordingly, tests showed that chip and french fry qualities of Atlantic potatoes are high. Palatability of both baked and mashed forms of Atlantic is also highly acceptable.
6. Genetic Vulnerability of Corn Reduced. The Southern corn leaf blight epidemic in 1970 focused public attention on scientific concerns about the genetic vulnerability of corn. Nearly all hybrids grown in the United States contain similar inbred lines of parent material, all of which is susceptible to a number of serious diseases or other pests. The parent populations of hybrids have been improved by ARS scientists at Ames, Iowa, through small, step-wise changes that are made in breeding populations by repeatedly selecting plants for desired traits and intensifying the traits by mating the selected plants. Results show that these selection procedures do improve the performance of the breeding populations. Sampling of the improved populations provides inbred lines not related to others used. Genetic vulnerability has been reduced. For example, line B73, developed from the fifth cycle of selection, is superior to B14, developed from the original unselect population. Both lines are extensively used in commercial hybrids and help to reduce the susceptibility of the crop to disease outbreaks of epidemic proportions.

7. Continued Improvement Made in Rust Resistance of U.S. Wheats. Effective resistance to stem rusts is an absolute necessity in the U.S. spring wheat area. During the past 20 years, success in preventing rust epidemics has kept bread on the American family table. ARS scientists have gained deeper insight, not only into the genetics of rust resistance in wheat, but have also improved their knowledge of the genetic system of the parasitic rust fungus. This knowledge has improved their ability to manipulate genes for resistance and has accelerated the development of new resistant varieties. During 1975, cooperative efforts of ARS and State scientists culminated in the release of 2 new rust resistant varieties for the North Central Region. Prior to 1955, stem rust caused 4 devastating national epidemics and several severe regional epidemics.
8. New Biological Methods Control Tobacco Diseases. ARS scientists at Oxford, North Carolina, demonstrated that acquired resistance of tobacco to serious diseases could be induced by special techniques. When tobacco cultivars with hypersensitive type of resistance to tobacco mosaic virus were inoculated with the virus, they did not develop mosaic disease but developed enzymes that reduced their susceptibility to a fungal disease, brown spot. The incidence of brown spot disease was reduced 50 percent. Similar acquired resistance was induced when nonpathogenic spores of the brown spot fungus were sprayed on the plants a few days prior to natural or artificial inoculation with pathogenic spores. The presence of the nonpathogenic fungus stimulated germination of the pathogenic spores but prevented their damaging penetration into the leaf tissue. Field practicality of these techniques is being tested as a means of disease control without hazard to the environment.
9. Superior Strains of Nitrogen-Fixing Bacteria Increase Yields of Soybeans. One of the most promising biological means of increasing food production lies in helping plants to create their own fertilizer. Soybeans, for example, are able to capture nitrogen from the air with the help of rhizobia, soil bacteria which fix nitrogen in the plant's roots. Since the plant is manufacturing its own fertilizer, the need for expensive chemical fertilizers is reduced. Some strains of rhizobia are more efficient than others in capturing free nitrogen for use by soybeans. Scientists at Beltsville, Maryland, have found Rhizobium japonicum, a recent import from India, to be a highly efficient strain. In field tests conducted where soybeans had not been planted previously (thus there were no other competing rhizobia), yields of 8 soybean varieties inoculated with the new strain were 30 percent above yields of the same varieties inoculated with other efficient strains of rhizobia from the Beltsville collection. On some varieties the new strain produced 50 to 75 percent more seed than the uninoculated controls whose yield was derived entirely from nitrogen supplied from the soil. This discovery can impact the future of all soybean production.
10. New Type of Plant Pathogen Discovered. An entirely new group of plant pathogens has been discovered by ARS scientists. For many years, scientists believed that the economically important "yellows" type diseases of plants were caused by viruses. More recently it has been suggested that these diseases are caused by Mycoplasmas. Now, as a result of research of the Plant Virology Laboratory, the new microorganism--the first of its type--has been recognized and identified as the causal entity of one of these diseases (corn stunt). The ARS scientists proposed the name of "spiroplasma" for the new organism. The discovery of the corn stunt spiroplasma marked the beginning of a new field in microbiology. It forced a new look at diseases of unsolved causes that led to the discovery of spiroplasmas as previously unrecognized pathogens in insects, avian species, and mammals.

This research has also provided a practical tool for disease diagnosis by microscopy and established techniques by which a specific organism can be isolated and cultivated in vitro. A search for the presence of similar organisms associated with other plant diseases resulted in the recognition of another spiroplasma as the causal agent of "stubborn" disease of citrus.

11. Sugarbeet Breeding Lines Developed with High Rhizoctonia Root Rot Resistance. Intricate breeding techniques and genetic studies have enabled ARS scientists in Colorado and Michigan to produce new breeding lines of sugarbeets with greatly improved resistance to rhizoctonia root rot. This disease annually destroys about 5 percent of the U.S. sugarbeet crop--a loss of about \$25 million. Rhizoctonia root rot causes early death of seedling sugarbeets, but more importantly it causes roots and crowns to rot in older plants. Progression of the disease eventually kills the plants. Because this root rot is caused by a soil-borne fungus that is present in nearly all soils, some growers could experience a total crop loss if the right combinations of temperature, moisture, and soil type occur at the same time and place. Currently, there are no effective chemicals to control the disease; cultural control by crop rotation is of limited effectiveness.
12. Method for Control of Parasitic Wasp Protects Leafcutter Bee. Sapyga wasps are tiny parasites that indirectly threaten the alfalfa industry. ARS scientists have developed a trap that effectively controls this pest. The protein-rich hay and forage crop, alfalfa, can only be pollinated by insects. Alfalfa leafcutter bees are one of the best of the alfalfa pollinators, but in recent years have suffered terrible losses because of Sapyga wasps. Consequently, the alfalfa seed crop has suffered too. Sapyga wasps deposit their eggs in leafcutter bee cells. Wasp larvae hatch, destroy host eggs, consume bee provisions, damage bee nests and diminish the chances of bee survival. The ARS trap consists of a box that utilizes black light to attract insects to a space so narrow it allows only the Sapyga wasps to enter. Wasps entering the trap are either embedded in petroleum gel or drowned in trays of oil. In 2 years, traps like this reduced the rate of wasp parasitism in a commercial leafcutter bee operation from 74 percent of the cells prior to controls, to 40 percent after the first year, to only 3 percent after the second year. Over 800,000 wasps representing a potential \$100,000 loss to the operation in cost of bees and reduced pollination, were captured during the 2-year test period.
13. Candidate Insecticides Effective Against Insecticide Resistant Tobacco Budworms on Cotton. A new class of insecticides, the synthetic pyrethroid compounds, included in ARS Beltwide Field Tests in 1975, were found highly effective against the tobacco budworm and bollworm complex. These new compounds are critically needed as previously recommended insecticides have failed to control tobacco budworms in Texas, Louisiana, Mississippi, and South Carolina in recent years. In Louisiana alone, late planted cotton suffered losses to the resistant-tobacco budworms ranging from severe to total destruction and the estimated loss was \$18 million. When registered by EPA, one or more of these experimental compounds will provide a badly needed means of controlling resistant-tobacco budworms.
14. Sorghum Hybrids Resistant to Greenbugs Will be Available Commercially in 1976. The greenbug - long an important pest of small grains - developed a new biotype that became the major pest of sorghum in 1968 in the Midwest and Southwest. Then, in 1974, resistance to the commonly used insecticides became pronounced. Fortunately, ARS entomologists at Stillwater, Oklahoma, had been able to locate plant resistance in sorghum by using techniques

developed earlier for small grains. Subsequently, ARS in cooperation with Oklahoma State University released resistant germplasm developed from 2 breeding lines. The breeding line SA-7536-1 and KS-30 either singularly or in combination have been incorporated into high-yielding hybrids by commercial seed companies. As a direct result of these research efforts, several resistance hybrids will be available commercially to growers in 1976. Research has shown that these hybrids should adequately protect sorghum from greenbugs, thus eliminating the need for insecticides and preserving the populations of natural beneficial insects. The resulting savings in this development is estimated at about \$14 million annually to sorghum producers in yield losses and chemical control expenditures.

15. Wasps Used to Control Alfalfa Weevil in the Northeast. The use of parasitic wasps obtained in Europe has eliminated the need for insecticides over an estimated 1.4 million acres of alfalfa; more than one-third of the total grown in the 13 States in the Northeast. The saving to farmers is estimated at \$7 million per year. Such savings help hold the line on rising operating costs that threaten to drive dairy farmers out of business or force up prices that ultimately would be passed along to the consumer. Several species of the pest-fighting parasitic wasps have been obtained in Europe by the ARS entomology laboratory located near Paris, France. Two of the species are being spread by ARS and cooperating State entomologists. Two other species are spreading without man's aid. The wasps seek out the alfalfa weevil or its larvae, and deposit their eggs. Upon hatching, the wasp larvae parasitize their hosts and soon kill them. Consequently, damage to alfalfa by the alfalfa weevil has greatly declined from New England to Delaware, and as far west as Ohio and Michigan.
16. Biological Control Agents Show Promise Against Disease-Bearing Mosquitoes. Mass production facilities were constructed for rearing 300,000 Culex pipiens mosquitoes and millions of infective stage nematode parasites per week at the Nematology Laboratory, Beltsville, Maryland. The parasites that kill 60 species of mosquitoes, including the carriers of encephalitis, yellow fever, malaria, and dog heartworm, were distributed by the millions to mosquito experts in 6 localities for field testing. An 80-95 percent kill was noted upon application to field ponds containing these mosquitoes. The parasite became established in some of the treated pools and recycled during the summer. Surveys next summer will show whether or not the established parasites survived the winter in Maine, New York, Massachusetts, New Jersey, and Maryland. The Fairfax Biological Lab., Clinton Corners, New York, has expanded their plant for production of the parasite commercially under the label "Skeeter Doom." Three other companies have shown commercial interest. The product has a shelf life of 1 year, is inexpensive to produce, easy to use, and has no adverse effects on the environment. Unlike some other species of nematodes, these parasitic agents are harmless to humans, animals, plants, fish, and beneficial insects such as bees.
17. Insect Growth Regulators Coming into Commercial Use. The recent registration of an insect growth regulator, methoprene (Altosid), for mosquito control brings to fruition approximately 40 years of basic research on insect hormones by the Department, universities, and industry. Another insect growth regulator under development is Dimilin which shows considerable promise for use against the boll weevil, gypsy moth, and soybean insects: When applied to cotton in cottonseed oil at 4- or 5-day intervals, Dimilin suppressed the boll weevil population in excess of 99.9 percent. This insect growth regulator does not kill adult weevils but prevents their eggs from hatching. Dimilin appears to be free of serious hazard to mammals and to many beneficial species of insects and other arthropods.

18. Research Doubles First Line of Defense Against Corn Borer. Hybrid seed corn with bred-in resistance to both generations of European corn borer soon will be available to farmers. ARS scientists at the European Corn Borer Research Laboratory, Ankeny, Iowa, and at Iowa State University, Ames, have developed corn breeding lines that State, Federal, and private breeders can use in developing hybrids resistant to both corn borer generations. Genetic resistance to feeding is the first line of defense against corn borer. Until now, however, resistance to first-brood feeding in June and early July and second-brood feeding in late July and early August could not be offered in one commercial hybrid. ARS scientists found this dual resistance in exotic corns from Columbia, South America, and with commercial breeders, bred it into parent stocks. This research reduces the need for insecticides in controlling European corn borer.
19. Improved, Less-Costly Mosquito Control. Research to reduce costs and improve efficiency of application equipment for mosquito control is coming to fruition. Benefits are accruing throughout the U.S. and in other parts of the world by adapting ultralow volume techniques to replace thermal fogging units, a concept developed by ARS scientists at the Insects Affecting Man Research Laboratory at Gainesville, Florida. Lowndes Engineering Company first undertook commercialization of the equipment, and now 3 other companies are also producing the equipment. This development, and concurrent research by ARS on droplet size of insecticidal aerosols, has resulted in savings of 65 to 75 percent in costs. Based on the number of new machines now in use, estimated annual savings of \$15 to \$35 million were accrued this year alone. Savings result from reducing the required amount of insecticide by 50 percent, eliminating fuel oil as a diluent (also an energy saving accomplishment), using storage and mixing tanks, and frequent reloading. Fuel consumption of vehicles, pumps, and motors is also reduced as well as traffic hazards created by fogs of insecticide.
20. Hybridizing American Elm With Other Elm Species. A cross between an American elm and a Siberian elm has for the first time produced seeds which germinated into seedlings that may have inherited resistance to Dutch elm disease from their Siberian elm parent. As the disease was ravaging American elms more than 30 years ago, researchers in North America and Europe attempted to cross the susceptible trees with other elm species that were resistant. The Siberian elm used for the successful cross in 1975 grew from a seed which, 10 years earlier, ARS scientists at Beltsville, Maryland, had chemically treated to double the tree's chromosome number to match the chromosome number of American elms. At Delaware, Ohio, where the Siberian elm grew to fruiting size and the cross was developed, scientists expect to complete evaluation of disease resistance and determine whether the seedlings are truly hybrids within a few years.

Tropical and Subtropical Agricultural Research

21. Germplasm Maintenance and Distribution. ARS scientists at the USDA Subtropical Horticultural Station, Miami, Florida, have introduced and distributed several papaya cultivars and species from 6 countries, and established 21 plantain cultivars for eventual distribution to researchers in the tropics. Over 3,000 species or clones of tropical and subtropical plants are being maintained and seeds of budwood of 7 fruit and tree varieties have been distributed to foreign countries and to U.S. researchers.
22. Improved Tropical Production of Beans and Cowpeas Through Disease and Insect Control. Rust-resistant cultivars of the common edible bean were obtained by ARS scientists at the Mayaguez Institute of Tropical Agriculture in

Puerto Rico. Some of these cultivars have proved resistant to a wide range of rust races endemic to the tropics. Bean cultivars with multiple virus resistance were developed through field cross-pollination. Screening of the International Cowpea Disease Nursery Cultivars resulted in the selection of several having resistance to the highly pathogenic strain of the cowpea mosaic virus present in Puerto Rico.

23. Evaluation of Plantain Varieties and Development of Production Techniques. A detailed survey being conducted throughout Puerto Rico by the University of Puerto Rico under contract to ARS has resulted in the discovery of plantain cultivars producing over 60 fruits per bunch and having a bunch weight of more than 45 pounds. This compares to a current average of 35 fruits per bunch. Through closer planting, fertilization and nematode control, plantain yields per acre in test planting have been increased three-fold.

RESEARCH ON THE USE AND IMPROVEMENT OF SOIL, WATER, AND AIR

Current activities: Research is conducted to improve the management of natural resources, including investigations to improve soil and water management, strip mine reclamation, salinity control, fertilizer efficiency, tillage practices and machines, irrigation and drainage practices, and to determine the relation of soil types and water to plant, animal, and human nutrition. The research includes studies on hydrologic problems of agricultural watersheds and the application of remote sensing techniques in meeting agricultural problems. Research is also conducted on agricultural pollution problems such as protection of plants, animals, and natural resources from harmful effects of soil, water, and air pollutants, and ways to minimize and utilize industry processing wastes of agricultural commodities.

There is a need for land and water resource improvement to maintain and improve the quality of the environment and the natural resource base and to enhance the development of rural communities.

Selected examples of recent progress: A description of these examples follows this index.

Research on Conservation and Use of Land and Water Resources and Maintaining Environmental Quality

- | | |
|--|--|
| 1. Conditions Restricting Revegetation of Strip-Mine Spoils are Identified | 6. Water Management Reduced Salt Load in Irrigation Return Flows |
| 2. Soil Compaction Caused by Wheel Traffic | 7. Pollution Hazards Reduced By Minimum Tillage System |
| 3. Soil Nitrates Found to Take New Pathways | 8. Composting Procedure for Sewage Sludge Improved and New Uses Demonstrated |
| 4. Linkages Between Soil Nutrients and Health Explained | 9. Less Costly Disposal of Runoff from Feedlots |
| 5. New Scheduling for Irrigation Cuts Costs | 10. Roadside Harvest Proven Worthwhile |

Research on Watershed Development

- | | |
|---|---|
| 11. Universal Soil Loss Equation Adapted for Erosion Control in the Pacific Northwest | 12. Global Applications for Remote Sensing of Soil Moisture |
|---|---|

Research on Soil and Water Conservation and Development

1. Conditions Restricting Revegetation of Strip-Mine Spoils are Identified. ARS scientists at Mandan, North Dakota, have been identifying conditions restricting plant growth in strip-mine spoils of the Northern Great Plains where mining is increasing rapidly to meet the Nation's energy demands. Current surface mining methods tend to invert natural soil layers. Spoils left on the surface are fine-textured and high in sodium content. These characteristics make the spoils very slowly permeable to water and plants grow poorly, if at all. Instead, water runs off causing erosion. Other properties of spoils in the West that restrict plant growth are excessive clay or sand content, high concentrations of soluble salts, and low fertility. ARS researchers found that phosphorus deficiencies are almost universal at mine sites but can be corrected by fertilization. The spoils are essentially devoid of biologically active nitrogen forms but contain a reservoir of inorganic nitrogen which is usually lost after the spoils have weathered a few years. Scientists are developing improved techniques of replacing topsoil, applying fertilizers and mulches to soil materials, and reestablishing vegetation. The importance to agriculture is in reestablishing productivity of crop and rangelands after mining. The research is of vital interest to the Environmental Protection Agency, the Soil Conservation Service and the Department of Interior, and is partially supported by them.
2. Soil Compaction Caused by Wheel Traffic. Wheel traffic of farm tractors and implements compacted soil to 2-foot depths at Morris, Minnesota, and the compaction persisted over winter in spite of soil freezing to 5-foot depths. Energy consumption to mechanically break up compacted soil is costly since normal tillage operations rarely exceed 12 inches. Field studies are providing guidelines for designing farming practices to reduce wheel-traffic compacted soil and increase crop yield. The complexities of plant response to compaction have been studied. Wheel traffic can drastically alter root-growth patterns. Wheat yields were reduced by 25 percent, but corn and soybeans benefited from a moderate amount of compaction in dry years. Soil compaction also affects herbicide, insecticide, and fertilizer effectiveness. Compaction reduces nodulation of soybean roots. The extent to which this reduces biological nitrogen fixation will be determined.
3. Soil Nitrates Found to Take New Pathways. New findings challenge current belief that nitrates in water-logged soils are changed into gases which then escape into the atmosphere in a process known as denitrification. This process reduces the efficiency with which crops utilize soil and fertilizer nitrogen. Some scientists believe these gases are harmful to the earth's ozone layer. ARS scientists found that only a part of the nitrates were converted to gases, and as much as 50 percent could be changed to ammonia and added to the organic matter of the soil. The proportion of nitrates retained in this manner increases with the supply of easily decomposable plant residues in the soil. This information may lead to more efficient use of fertilizer and reduced pollution hazard.
4. Linkages Between Soil Nutrients and Health Explained. Nutrients in the soil affect the quality of the food that humans and animals eat. Nineteen elements are considered essential to plant, animal, and human health. Information has been compiled to show how these nutrients can move from soil to plants, animals, and people, and be used to produce food crops with better nutritional value. Using soils for food production for many years does not automatically cause deterioration; many infertile soils have been improved through use of modern farming practices. Nor is it

necessarily true that inorganic or chemical fertilizers, as opposed to organic fertilizers, adversely affect soils. Food production systems of the future almost certainly will include combinations of both organic and inorganic fertilizers, with the combination varying for different farms and countries. Agricultural Information Bulletin 378 describing these findings is available from GPO.

5. New Scheduling for Irrigation Cuts Costs. Farmers and ranchers who irrigate sandy soils with center pivot sprinklers can cut annual costs on a typical 150-acre corn field by about \$2,100 by following an irrigation schedule developed by ARS scientists in Colorado. These savings are based on increased corn production and cost-savings for nitrogen and electricity. In Nebraska alone, this schedule could be used on about 4 million acres of land previously suitable for only rangeland. The program uses meteorological data to estimate crop needs to make efficient use of water while still maintaining high yields. Irrigators who followed the particular weekly irrigation schedule increased corn yields from 125 to 155 bushels per acre. When they followed the new schedule, irrigators lost only 5 percent of the total irrigation water by deep percolation as compared with 16 percent for systems considered well-managed with high yields. Water moving through the soil carried 60 pounds per acre of nitrogen below the root zone for unscheduled fields whereas irrigation scheduling systems lost only 20 to 30 pounds per acre of nitrogen. This research answers a specific need as expressed by the Great Plains Council.
6. Water Management Reduces Salt Load in Irrigation Return Flows. Carefully controlled and managed irrigation that provides only the water needed by the crop plus a small amount for leaching salts can reduce the adverse effect of salt in rivers associated with irrigation. ARS researchers at the U.S. Salinity Laboratory, Riverside, California, have shown that practices that permit 10 percent of the irrigation water applied to percolate through the soil as drainage more than satisfied most crop needs and prevented salinity damage for a wide range of waters. Irrigators now use 30 percent or more. Such practices significantly lessen the stream salt burden (1.1 ton per acre per year reduction in salt at the Imperial Dam). Applied to about 65,000 acres irrigated in the Wellton-Mohawk District, an ultimate beneficial reduction of 71,000 tons per year of salt could be expected. Thus, irrigation management is a major tool towards accomplishing the goal of enhancing water quality. The research is specifically aimed at reducing the salt load in the lower Colorado River and is of particular interest to the Departments of Interior and State, and the Environmental Protection Agency. The practical feasibility of these findings is currently under study through extensive field experiments in Arizona and Colorado. The required investment in capital and reeducation should compare favorably with alternatives, such as capital and energy-intensive desalting schemes. Additional water demands for development of new energy sources, recently estimated at 874,000 acres per foot per year for the Upper Colorado River Basin, make the opportunity for improved irrigation management particularly timely.
7. Pollution Hazards Reduced by Minimum Tillage System. To reduce pollution hazards from both sediments and farm chemicals, there is a need for improved erosion control in Mississippi. ARS scientists at Oxford, Mississippi, showed that the no-till system for corn, small grains, and soybeans had soil losses to 0.2 tons per acre per year as compared with conventionally-tilled losses of 7.4, 4, and 13 tons per acre per year, respectively. Total losses of nitrogen and phosphorous from no-till soybeans were 4.2 and 2.5 pounds per acre compared with 41.4 and 15.7 pounds per acre from

conventional-tilled soybeans. The no-till system provides a means for reducing erosion and the loss of farm chemicals, thus improving the quality of surface runoff from agriculture. The research was specifically requested by the Soil Conservation Service.

8. Composting Procedure for Sewage Sludge Improved and New Uses Demonstrated.

A simple but highly efficient composting technique has been developed where air is drawn through a large pile of mixed sludge and woodchips and then conducted through a second pile consisting of cured compost. The second pile effectively removes gases with objectionable odor. Great reduction in numbers of fecal bacteria indicated that pathogens were probably likewise destroyed during the composting process, even in unfavorably cold or wet weather. Other health-related research suggested that viruses were more effectively removed from solution in soils with somewhat lower acidity than in those with higher acidity. Recent experiments have clearly demonstrated the usefulness of the compost in many situations; e.g., agricultural crops, turf establishment and maintenance, revegetation of strip-mine soil, potting medium for ornamental plants, and the growth of dogweed and tulip poplar trees from seed in the field.

9. Less Costly Disposal of Runoff from Feedlots. New approaches for disposing of runoff from beef cattle feedlots reduce the cost of controlling stream pollution for owners of small and average-sized feedlots. Two approaches to direct disposal of runoff by infiltration on the soil are being studied at Lincoln, Nebraska. A serpentine, or switch-back terrace, disposal system is used on sloping land, and a leveled area surrounded by a low dike is used on nearly level land. Direct-land disposal eliminates the high costs of holding ponds, pumps, and liquid-distribution systems, as well as attendant problems of odor, maintenance, and land application. Direct-land disposal of runoff is practical because runoff from rainfall begins earlier and is larger in quantity on feedlots than that from adjacent cropland. The first runoff from a feedlot (which has the highest content of chemical pollutants) has a high water pollution hazard, but is beneficial to crop and grasslands.

10. Roadside Harvest Proven Worthwhile. Ranchers and farmers who are short of hay or need low-cost forage might consider fertilizing and harvesting forage from along highways and median strips. Studies in Wyoming showed that 80 pounds per acre of nitrogen and 56 pounds per acre of phosphorous produced about 1,762 pounds per acre of forage as compared with about 639 pounds per acre forage harvested from unfertilized plots. More forage was harvested from areas nearest the highway than from those farther away (2,241 vs. 1,306 pounds per acre) because the impervious highway surfaces provided more moisture for forage nearest the highway. There are many advantages of this practice, including: highway scenery is improved for motorists because the fertilizer keeps roadsides greener longer into the summer, harvesting the forage saves county and State highway departments time and money spent mowing the right-of-way, removing this grass allows snow to blow across the road rather than collecting on it, and harvesting the hay also reduces the possibility of fires.

Research on Watershed Development

11. Universal Soil Loss Equation Adapted for Erosion Control in the Pacific Northwest. Sediment from eroding cultivated croplands is the major polluter of surface water in the Pacific Northwest. Much of this sediment is productive topsoil containing plant nutrients. About 8 million acres of cropland are directly affected with losses averaging between 10 to

15 tons per acre per year. Some critical areas lose over 100 tons per acre per year. The urgency to develop improved erosion-control methods has increased because of public mandates for improved water quality. At the request of the Soil Conservation Service, the Universal Soil Loss Equation which was developed to predict erosion in areas with summer precipitation has been adapted to the unique winter precipitation and topographic features of the Pacific Northwest. This equation evaluates and projects the effectiveness of crop-management systems for preserving valuable soil and meeting water-quality standards. Weaknesses in any given system can then be corrected so that the final erosion-control practice used is the best possible.

12. Global Applications for Remote Sensing of Soil Moisture. Applying newly developed techniques to assess soil moisture using aircraft and/or satellites could be of incalculable economic value to global agriculture. These techniques may have equal application to other specialties, including hydrology and civil works. ARS scientists at the U.S. Water Conservation Laboratory, Phoenix, Arizona, are utilizing thermal-infrared radiation to remotely assess soil moisture by using infrared thermometers. Maximum and minimum temperatures of soils are measured from airplanes and the differences in those temperatures are correlated with ground-truth data to determine the water content of the soil under study. The technique is being designed so that it can be used in satellites as well. Assessing soil moisture over large areas could improve our capabilities for managing rangelands, predicting crop yields, and warning of wind erosion hazards. Similar approaches are being tested to relate crop-canopy temperatures with crop water stress and yield. This is a cooperative research effort with National Aeronautics and Space Administration.

RESEARCH ON MARKETING, USE, AND NUTRITIONAL VALUE OF AGRICULTURAL PRODUCTS

Current activities: Research is conducted to develop new and improved foods, feeds, fiber and industrial products and processes utilizing renewable agricultural commodities in order to maintain and expand domestic and foreign markets for farm crops. Research is conducted on marketing of agricultural products. Studies concern the processing, transportation, storage, wholesaling and retailing of products, to reduce the costs of marketing, to maintain product quality, to reduce losses from waste, spoilage, insect infestation, and pollution.

Research is conducted on human nutritional requirements, composition and nutritive value of foods to provide information needed for consumers and for Federal, State and local agencies administering food and nutrition programs.

Research is conducted on problems of human health and safety. Studies concern developing means to insure food and feed supplies and products free from toxic or potentially dangerous residues, harmful chemicals, microorganisms introduced from agricultural sources, and processing operations. The research conducted also includes studies concerning means to control insect pests of man and his belongings; prevent transmission of animal diseases and parasites to man; reduce the hazards to human life resulting from pesticide residues, toxic molds, tobacco, and other causes; and, develop technology for the detection and destruction of illicit growth of narcotic-producing plants.

Research is conducted on consumer services to measure family use of resources, to identify economic problems of families, and to provide information on fabric performance and the use and care of clothing and household articles by consumers. Research on housing is conducted to provide knowledge and technology to help

bring about improved designs, material, and construction methods for both low-cost renovation and new construction of rural housing suitable for low-to-moderate income rural residents.

Selected examples of recent progress: A description of these examples follows this index.

Market Efficiency Research

- | | |
|---|--|
| 1. Super Slurper Receives New Product Award | 7. Live Steam Process for Conditioning Pecans Improves Shelling Efficiency and Storage Stability |
| 2. Major Step Achieved In Controlling Stored-Product Insects | 8. Unitized Handling of Lettuce Results in Savings |
| 3. Potato Storage Losses Reduced | 9. Bioregulation Enhanced Fruit Quality and Appearance |
| 4. Washable or Dry Cleanable Poly-Retan Garment Leathers Could Open New Markets | 10. Improved Wool Fabrics Will Help Regain Sales |
| 5. New Insect Detection Method Developed | 11. Fast, Accurate Test for Analyzing Forage Quality |
| 6. Starch-Based Plastics Replace Plastics Derived from Petroleum | |

Research to Expand Agricultural Exports

12. Fumigation Treatment Developed for Grapefruit

Food and Nutrition Research

- | | |
|---|--|
| 13. Getting Good Protein Out of Cottage Cheese Whey | 15. New Process Developed for Recovering Food-Grade Protein from Rice Bran |
| 14. New Iron Compound Isolated from Wheat | |

Research to Improve Human Health and Safety

- | | |
|---|--|
| 16. Corn Starch Compound Removes Heavy Metals from Waste Waters | 18. Low-Fat Diets Reduce Blood Pressure in Man |
| 17. Aflatoxin Inactivated in Corn | |

Research on Consumer Services

- | | |
|---|---|
| 19. Cotton/Polyester Blend Fabrics Made Flame Resistant | 20. Cotton Fabrics Made Germicidal for Prevention of Diseases and Elimination of Perspiration Odors |
|---|---|

Market Efficiency Research

Super Slurper Received New Product Award. As a part of the agency research effort on corn, a new product has been developed. Super slurper, a water absorbing starch-compound, developed by Agricultural Research Service scientists, has won Industrial Research magazine's recognition as one of the 100 most significant new products of 1975. Developed at the Northern Regional Research Center (NRRRC), Peoria, Illinois, super slurper takes up 1,400 times its weight of distilled water, half of it in 30 seconds. It absorbs as much as 100 times its weight of mineral solutions including hard water and urine.

Seven companies have licensed the USDA patent application and one, General Mills Chemicals, has announced it is offering the new product to other companies in developmental quantities. NRRC has received more than 1,000 requests for experimental samples for trial in soils, disposable diapers, bandages, towelling, kitty litter, and a variety of other applications totalling more than 50.

2. Major Step Achieved In Controlling Stored-Product Insects. Progress was achieved in a new technology for controlling stored-product insects by scientists as they isolated and identified the primary component of the sex pheromone of several Trogoderma beetles. With further research the pheromone may be synthesized and used to attract insects to traps that contain a killing agent such as an insecticide, sticky compound, or disease agent. Traps will be used to monitor or detect the presence of insects in order to selectively apply controls when and where they may be needed. Trogoderma beetles, which include the notorious khapra beetle, are serious pests of stored grain and numerous other foods of either vegetable or animal origin in most parts of the world. The newly discovered pheromone is extremely effective for the primary warehouse pest in California, Trogoderma variabile. Isolation and identification of the pheromone was a joint project of ARS scientists at Madison, Wisconsin, and their colleagues at Syracuse University, New York, and the Max Planck Institute, Seewiesen, Germany.
3. Potato Storage Losses Reduced. One of the biggest problems of stored potatoes, Fusarium dry rot, has been solved in a cooperative effort by an ARS scientist in Orono, Maine, and a scientist at North Carolina State University. Losses caused by this disease have been estimated at \$165 million. A treatment with a fungicide - thiabendazole - applied to the potatoes just prior to putting them in storage has reduced losses due to this disease to less than one percent. Clearance of thiabendazole by Environmental Protection Agency in 1975 has allowed about one million hundredweight of Maine potatoes to be treated with this fungicide.
4. Washable or Drycleanable Poly-Retan Garment Leathers Could Open New Markets. Substantial new markets are expected to open up for garment leathers that can be manufactured with a new process developed at the Eastern Regional Research Center, Philadelphia, Pennsylvania. Improved drape, resilience, and stretchability are qualities produced in the new process. The new Poly-Retan leathers are available in drycleanable or washable versions. Industrial interest in Poly-Retan garment leathers is high because of the easy-care properties and other qualities having high consumer appeal. Poly-Retan leather is expected to be competitive with synthetic fabrics and synthetic shoemaking materials that represent a multimillion dollar market. Poly-Retan garment leathers could be made from much of the 3 billion pounds of cattle hides, pigskins, and sheepskins produced annually in the United States. The new process is an economical, one-step operation involving the grafting of selected dyes and other chemicals onto chrome-tanned leather stock. This operation replaces the traditional operations of retanning, fatliquoring, dyeing and finishing.
5. New Insect Detection Method Developed. A new method of detecting insects in foods in processing and marketing channels has been developed at the Stored-Product Insects Research and Development Laboratory, Savannah, Georgia. It is sensitive enough to detect within minutes the presence of even a single insect in a 1,000-gram sample of wheat, flour, packaged mix, or dried fruits. The method uses instrumentation in a manner such that the minute quantities of carbon dioxide (CO₂) generated by the insects

can be detected even in the presence of normal atmospheric CO₂. Laboratory tests of prototype systems and a wide variety of foodstuffs (wheat, flour, corn meal, prepared mixes, cocoa powder, candy bars, and dried fruits) have been highly successful. One field test was conducted with an incoming shipload of a new crop of dried Iranian dates as it was moved through the port of Savannah. The test was conducted in cooperation with Agricultural Marketing Service (AMS) and Nabisco, Inc., and results showed that the new insect detection system could be effectively integrated into existing AMS inspection routines. Such a system is now being developed for the Department of Defense to be used for inspecting military subsistence items. Studies are also underway to adapt the system for use by the Food and Drug Administration to replace traditional detection methods that are costly and time-consuming with only limited application.

6. Starch-Based Plastics Replace Plastics Derived from Petroleum. One company is replacing petroleum products with corn starch in making water-soluble laundry bags from plastic film that is 20 percent starch. This first industrial application of techniques developed by Agricultural Research Service chemists saves the company \$220,000 a year, conserves petroleum, and provides a biodegradable plastic that does not permanently pollute the environment. The company's use of starch at the rate of 500,000 pounds a year in making starch-polyvinyl alcohol film establishes the economic and technical feasibility of techniques developed at the Northern Regional Research Center, Peoria, Illinois. Plastics containing as much as 60 percent of starch or starch-derived materials can be made by these techniques. Starch-based plastics can be formed into trays, eating utensils, packaging materials, bags and other disposable items. They can be used as thin films for mulching vegetable crops. Most of the 22 million pounds of conventional plastics made every year will not decompose after disposal, and some are visibly accumulating.
7. Live Steam Process for Conditioning Pecans Improves Shelling Efficiency and Storage Stability. Total annual pecan production in the U.S. for the years 1954-1968 averaged 184 million pounds and during this period over 80 percent of the annual production was marketed shelled. The operating efficiency of commercial shelling plants influences the prices farmers receive for pecans and the prices consumers have to pay for them. A major source of economic loss in the industry is the low yield of unbroken nutmeat halves obtained in commercial shelling operations. An ARS-developed improved process for conditioning pecans by subjecting them to live steam for 3 minutes prior to shelling increases yield of halves from 50-70 percent up to 90 percent, reduces process time from 18-24 hours down to 3 minutes, reduces labor and equipment requirements, and significantly extends the storage life of the product. Adoption of this process by industry could result in an estimated savings of \$5 million per year.
8. Unitized Handling of Lettuce Results in Savings. Millions of dollars can be saved by growers and shippers of lettuce by "unitizing" handling along with the use of a "new" carton size. ARS scientists at Fresno, California, have shown that lettuce can be unitized in the field and that these intact "units" of 16 cartons each can be mechanically handled through each step in the marketing system. By using a slip sheet for the unit base, rather than a wooden pallet, approximately \$2 is saved on each unit; a new carton developed for the system saves about 8 cents over the carton now in use. Since 110 million cartons of Western Iceberg lettuce were shipped to market last year, projected savings amounts to \$8 million for cartons alone. With additional savings in handling costs, the new system should

result in delivery of lower priced lettuce to consumers, and also should reduce bruising and loss of quality. Increased efficiencies in the new system would benefit producers, carriers, wholesalers, retailers, and consumers.

9. Bioregulation Enhances Fruit Quality and Appearance. A new concept of fruit, and possibly vegetable, treatment has potential for revolutionizing those fresh market industries by raising the quality and appearance (shelf life) of fruits and vegetables for a longer period of time. The concept of chemically regulating fruit composition and metabolism after it leaves the tree or field has been demonstrated by ARS scientist at Pasadena, California. A number of synthetic bioregulators have been discovered that specifically control pigments that enhance citrus fruit color and increase provitamin A 60 fold. More recently other bioregulator-like agents have been discovered that retard the ripening process in certain fruits. Potential benefits of bioregulation of plant metabolism and composition are considerable. Bioregulatory control of the ripening process of bananas, for instance, should reduce losses of this valuable food, prolong shelf life, reduce refrigeration requirements, a multi-million dollar savings in itself, and allow a longer time for transportation and marketing. Storage temperatures higher than those now used would reduce refrigeration needs and allow reductions in energy use both in storage and in transit.
10. Improved Wool Fabrics Will Help Regain Sales. With processes developed by ARS scientists at the Western Regional Research Center, wool can now be manufactured with two-way stretch, high bulk, and other desirable properties. A simple chemical treatment "sets" wool fibers in whatever condition they are in when treated. Thus, when woven wool or wool blend fabrics are treated in a slack condition, an excellent 2-way stretch woven fabric results. If the fabric is treated under tension, a smooth, firm fabric is produced. Straight fibers, such as mohair and coarser wool, can be treated while in a knitted state, then "unknitted" and rewoven to yield a high bulk, soft textured yarn for re-manufacture into more desirable fabrics. The chemical is cheap, plentiful, and biodegradable and the treatment is compatible with existing mill equipment. The process can be run continuously at less than 5 cents per pound of treated fabric.
11. Fast, Accurate Test for Analyzing Forage Quality. ARS scientists at Beltsville, Maryland, and University Park, Pennsylvania, have developed a new, rapid method for determining the quality of forages. This method could be an important research tool in forage breeding research. A measurement of the reflectance of specific wavelengths of infrared light is utilized to determine the various components of a small sample of ground forage. Preliminary results show excellent correlations with the cellulose, fiber, protein, lignin, digestibility, moisture content and intake (how much the animal will actually eat) of the forage. The analysis of the ground sample takes about 1 minute compared with the present method of analysis which takes several days. The method could revolutionize the analytical procedures for estimating forage quality. It is uniquely adopted to solve plant breeding, management, marketing and nutritional problems through use of computer technology.

Research to Expand Agricultural Exports

12. Fumigation Treatment Developed for Grapefruit Exports. Research by ARS scientists at Miami, Florida, shows that ethylene dibromide is an effective fumigant against immature stages of the Caribbean fruit fly that infects

grapefruit in Florida. The Japanese Government in June 1974 prohibited importation of grapefruit from Florida due to infestations by Caribbean fruit fly larvae. In cooperation with industry, the Miami scientists developed a treatment in which grapefruit are fumigated in cardboard shipping cartons in semi-trailer vans. In these studies over 21,000 grapefruit containing over 100,000 Caribbean fruit fly larvae were fumigated with no fruit fly larvae surviving the treatment. As a result of these experiments the Japanese Government approved resumption of shipments of fumigated grapefruit to Japan and the Florida Citrus Industry shipped over 5 million cartons worth \$20 million to Japan during the period from February 10 to May 5, 1975.

Food and Nutrition Research

13. Getting Good Protein Out of Cottage Cheese Whey. A highly nutritious protein recovered from the whey that's left after making cottage cheese is being utilized experimentally to increase the nutritive value of a number of foods. At the same time, use of the whey means that it stays out of our lakes and streams, where it otherwise would be dumped as a troublesome waste product. Tests have shown that incorporating the protein into macaroni at levels of only 8 3/4 percent of weight of the formulation, can raise the protein value of the macaroni equal to milk protein (casein). Moreover, the protein-fortified macaroni can be produced on a commercial scale with no change in the traditional manufacturing process and no change in taste or flavor. A projected 1975 consumption in the United States of nearly 2 billion pounds of all pasta products, including macaroni, gives some idea of the potential market for whey protein. The food industry is interested in the process because the whey proteins could enhance the nutritional value of many processed foods, including cereals and snacks. Currently, only 42 percent of the 32 billion pounds of fluid whey produced annually in the United States is used. Cottage cheese whey comprises 20 percent of the total and is even less utilized. The process of recovering the protein from the whey involves a straightforward, economical steam-injection step that yields an easily handled protein curd.
14. New Iron Compound Isolated from Wheat. A unique new iron compound known as monoferric phytate was recently isolated from wheat bran by human nutritionists at Beltsville, Md. This is the first time this compound has been found as a natural constituent in foods. Further study of this material, which shows excellent biological availability and is the major iron component in wheat, will lead to better understanding of how humans utilize it in cereals. The monoferric phytate was found in studies on biological utilization of iron in foods. Foods rich in iron are important for good health. Iron's importance is evident from statistics showing that 10 to 15 percent of certain population groups are anemic or have low iron reserves in their bodies. In work on rats, monoferric phytate was found equal to another iron compound known as ferrous ammonium sulfate in its ability to support formation of red blood cells. Some of the physical and chemical characteristics of this new iron compound may explain why rats utilize it so well. It is readily soluble in water in contrast with poorly utilized forms of iron, like the higher iron phytates which tend to be insoluble.
15. New Progress Developed for Recovering Food-Grade Protein from Rice Bran. ARS scientists at Berkeley, California, developed the technology for recovering and concentrating the highly nutritious food-grade protein from rice bran. In addition to rice bran's protein content (possibly the highest quality in any enriched cereal protein), it is also rich in fat,

starch, vitamins, and minerals. This source of protein is available in areas frequently suffering food shortages. Bran is the outer covering of rice which is removed during milling to produce white rice. Bran is usually fed to cattle or discarded because of its high fiber content, tough hull fragments, and oil that quickly becomes rancid. The new process eliminates undesirable components that still can be used in animal feeds and produces a stable and nutritious protein concentrate and high protein flour. Wheat flour bread can be made containing 15 to 20 percent of these rice products. It is estimated that enough protein to satisfy the requirements of 245 million people could be recovered from rice.

Research to Improve Human Health and Safety

16. Corn Starch Compound Removes Heavy Metals from Waste-Waters. A corn starch compound developed by ARS scientists offers industry a new way to recover heavy metals dissolved in waste-waters. Metals recovered with this material are sufficiently concentrated to make practical the recycling of the more expensive ones. ARS chemists at the Northern Regional Research Center (NRRC) have responded to more than 1,100 industrial requests in 12 months since they announced the new development. Two companies are supplying cross-linked starch on request to firms for making and trying the compound. In NRRC chemists are working under a grant from the EPA, with wastes from brass mills, lead battery plants and copper etching plants to further advance the new technology. Recycling metals at plants where they are used reduces the danger of toxic levels in public water supplies and city sewage sludge and conserves them as limited resources.
17. Aflatoxin Inactivated in Corn. A toxin produced by a mold can be inactivated in corn by treating the corn with ammonia gas or liquid. Aflatoxin, named for the mold that sometimes produces it, Aspergillus flavus, can cause cancer in animals and is a suspected carcinogen to humans. Corn that contained aflatoxin was treated with ammonia in the laboratory at the Agricultural Research Service's Northern Regional Research Center, Peoria, Illinois, then chemically analyzed and fed. Both chemical assay and feeding tests with duckling, chickens and trout indicated the aflatoxin had been inactivated. The laboratory scale studies were repeated in grain storage bins made of corrugated steel typical of those used on the farm but specially sealed. This farm-scale ammoniated corn is being fed hogs and broiler chickens in trials designed to look for unexpected side effects, and to determine whether the ammoniation process is acceptable to the Food and Drug Administration (FDA) or a means of utilizing the corn as feed for market animals. A FDA approved method would eliminate the waste of destroying FDA-condemned corn and tend to stabilize markets and attitudes that can fluctuate wildly with reports of aflatoxin during corn harvesting.
18. Low-Fat Diets Reduce Blood Pressure in Man. Nutritionists estimate that the average American diet contains 45 percent fat calories. A number of medical groups have recommended a reduction to 35 percent. Scientists in the Nutrition Institute at the Beltsville Agricultural Research Center conducted dietary studies to show that such a change in the American diet could easily be made using foods commonly available at grocery stores. A low-fat diet of 25 percent fat calories for 40 days, followed by 35 percent fat calories for an additional 40 days, was fed to 10 men and 11 women volunteers in the 40 to 60 age group. Results showed that a 15 percent reduction in blood cholesterol was accompanied by a 15 percent drop in systolic blood pressure. Furthermore, the volunteers received about twice as much polyunsaturated fat (linoleic acid) in the 25 percent fat calorie diets and three times as much in the 35 percent fat calorie

diets as they were accustomed to in their normal diets. This may also have been a factor in reducing blood pressure since recent evidence from other laboratories indicates chemicals that regulate blood pressure are synthesized from linoleic acid in the kidney. These reduced blood pressures were maintained throughout the study period. When the volunteers went back to their normal diets, however, blood pressure rose to pre-study levels.

Research on Consumer Services

19. Cotton/Polyester Blend Fabrics Made Flame Resistant. Cotton/polyester blend fabrics are used extensively in wearing apparel. The Southern Regional Research Center has developed a flame-retardant material that does not adversely affect fabric quality. The blended fabrics treated with the material (Thpc-urea-PVB-PVC) passed the Department of Commerce flame test after 50 laundry cycles. The fabrics retain 100 percent and 55 percent of their breaking and tearing strengths, respectively. Two companies and four finishing mills are involved in commercializing this process. About 9 million pounds of this chemical could be needed to impart durable flame resistance to about 280 million linear yards of cotton/polyester fabrics per year.
20. Cotton Fabrics Made Germicidal for Prevention of Diseases and Elimination of Perspiration Odors. A new method has been discovered by ARS researchers for making cotton bacteriocidal. Treated fabrics have been produced that show high resistance to certain infectious bacteria and also to bacteria that cause unpleasant odors in human perspiration absorbed in clothing. The chemicals used in this treatment are inexpensive materials which, by themselves, are non-durable and only moderately effective. When applied together, however, they form a novel, colorless, highly bacteriocidal complex. Fabrics treated with a water solution of the complex and heated to dryness retain their original strength, suppleness, porosity and whiteness. The germicidal complex is deposited as a film on the surface of the cotton fibers and is durable to 30 to 50 home-type laundering cycles. Germicidal cotton should prove useful in hospital bedding and bedclothes, bandages, sutures and surgical dressings for use in preventing infection, and in underwear, stockings and shoe linings, where odor suppression is desirable. In certain uses, such as in diapers, sanitary napkins, and socks, both the prevention of skin diseases or infection, and the elimination of odor may be effected. This discovery has great potential benefits for institutional and consumer application.

Status of Construction Projects as of December, 1975

Status of research facilities authorized in prior years, and reported as uncompleted in the 1976 Explanatory Notes, is as follows:

Note: (Design criteria provided by ARS to specify the program requirements and form the basis for negotiation of architect-engineer contracts. Diagrammatic drawings provide the basis for the first review of the architect's design. Tentative drawings are provided by the architect for firming up cost estimates and a basis for developing the completed, and final working drawings).

<u>Location and Purpose</u>	<u>Year</u>	<u>Funds Provided</u>	<u>Amount</u>	
<u>California, Albany</u> Wool utilization research.	1968 Plans	\$50,000 a/		Final working drawings completed in May 1970.
<u>California, Riverside</u> Soil and water conservation research.	1968 Plans	50,000 a/		Final working drawings completed in July 1970.
<u>Colorado, Akron</u> Soil and water conservation research.	1970 Plans 1973 Construction .. Total	50,000 b/ 750,000 800,000 c/		Final working drawings completed in June 1973. Construction contract awarded in December 1974. Completion of construction is expected in the third quarter of fiscal year 1976.
<u>Louisiana, Baton Rouge</u> Soil and water conservation research.	1971 Plans	80,000		Criteria being revised to meet new program requirements.
<u>Maryland, Beltsville</u> Electrical substation and central incinerator.	1970 Construction ..	525,000 d/		Electrical substation completed in October 1972. Incinerator completed in November 1975.
<u>Maryland, Beltsville</u> Sewage treatment facilities.	1975 Construction	1,400,000 d/e/		Final working drawings completed in November, 1975. Construction contract for the East Waste Water Treatment Plant is expected to be awarded in the second quarter of fiscal year 1976.

Status of Construction Projects as of December, 1975 - Cont.

<u>Location and Purpose</u>	<u>Funds Provided</u>	<u>Amount</u>	
	<u>Year</u>		
<u>Nebraska, Clay Center</u>	1968 Plans	250,000	Construction contract awarded in October 1975. Construction expected to be completed in the fourth quarter of fiscal year 1977.
Meat animal research (Phase II).	1975 Construction	5,020,000	
	Total	5,270,000	
<u>New York, Ithaca</u>	1968 Plans	40,000 a/f/	Planning has not been scheduled.
Soil and water conservation research.			
<u>New York, Plum Island</u>	1973 Plans	250,000	Architect-engineer contract awarded October 1973. Final working drawings completed in December, 1975.
Additional animal and laboratory facilities.			
<u>New York, Plum Island</u>	1973 Plans and		Construction contract for incinerator modification awarded in July 1975. Construction is expected to be completed in the third quarter of fiscal year 1976. Design completed for the sewage treatment facilities. Construction contract expected to be awarded in the third quarter of fiscal year 1976. Construction is expected to be completed in the third quarter of fiscal year 1977.
Air pollution abatement and sewage treatment facilities.	Construction	1,060,000	
	1976 Construction	2,600,000	
	Total	3,660,000	
<u>Texas, Temple</u>	1968 Plans	150,000	Initial construction completed in February 1974. Architect-engineer contract for additional construction awarded in November 1974. Final working drawings expected to be completed in third quarter of fiscal year 1976.
Grassland and forage research.	1971 Construction	1,500,000	
	1973 Construction	500,000	
	Total	2,150,000	

Status of Construction Projects as of December, 1975 - Cont.

- 133 -

<u>Location and Purpose</u>	<u>Year</u>	<u>Funds Provided</u>	<u>Amount</u>	
<u>North Dakota, Grand Forks</u>				
Human nutrition research.	1976 Plans		225,000	Pursuant to Section 1012 of Public Law 93-344, funds for this project have been recommended for rescission.
<u>West Virginia, Beckley</u>				
Soil and water conservation research.	1972 Plans		70,000	Project being redesigned to meet available funds. Design criteria is completed. Architect-engineer contract award expected in the third quarter of fiscal year 1976.
	1973 Construction		<u>700,000 f/</u>	
	Total		770,000	
<u>West Virginia, Kearneysville</u>				
Fruit crop research.	1973 Plans		200,000	Architect-engineer contract awarded in November 1973. Final working drawings completed in November 1975. Construction contract expected to be awarded in the fourth quarter of fiscal year 1976.
	1976 Construction		<u>7,570,000</u>	
	Total		7,770,000	
<u>a/ Funds provided from the Contingency Research Fund.</u>				
<u>b/ Since \$50,000 appropriated in 1970 for planning a Soil-Water-Plant Research Laboratory, Ithaca, New York, and Soil and Water Research Laboratory, Akron, Colorado, was insufficient to plan both of these facilities, the full amount was used at Akron, Colorado.</u>				
<u>c/ Due to cost escalation, an additional \$100,000 has been reprogrammed from unspent balances of completed construction projects for construction of the Akron, Colorado, facility.</u>				
<u>d/ Planning funds were not appropriated separately but are included in the funds appropriated for construction.</u>				
<u>e/ In addition, Department of Treasury will provide \$100,000 toward costs incurred in completing the project.</u>				
<u>f/ Due to cost escalation, funds for the Ithaca, New York, project have been redirected to Beckley, West Virginia, to provide sufficient funds to construct the facility.</u>				

CONTINGENCY RESEARCH FUND

The Contingency Research Fund, established by Congress in fiscal year 1962, is designed to provide a ready source of funds to meet unforeseen and immediate research needs. Releases from the funds are generally made in situations where an emergency exists, or for special needs such as an unexpected scientific "breakthrough", or for new diseases or pest problems where it appears inadvisable to wait for consideration of a request for funds for the project in the regular budget process. In allocating funds, the procedure ordinarily is to make no commitments for allocations from the fund beyond the current year.

In fiscal year 1975, releases from the Contingency Research Fund were made for the following purposes:

1975 Obligations

Animal Production Efficiency Research:

Repair and refurbish marine vessel to provide required water transportation at PIADC.....	\$30,731
--	----------

Plant Production Efficiency Research:

Food increasing potential of brassins.....	73,705
Support of viroid research at the Plant Protection Institute, BARC.....	90,314
Determination of changes in corn rust fungi and evaluation of corn genotypes: Agreement with Mississippi State.....	25,000
ARS corn research group.....	3,660
Witchweed.....	50,000
Develop optimum method for sterilizing bollweevils by Co dose fractionation.....	18,275
Quality assurance in honey to retain markets and insure adequate crop pollination.....	60,253
Control of <u>Heliothis Zea</u> (corn earworm).....	4,400
Development of integrated management of corn earworm....	20,826
Symbiotic nitrogen fixation in tropical grass species...	30,118
Formulation and field testing of tobacco budworm sex pheromone.....	42,502
Stripe rust of wheat.....	10,314
Determination of chemical composition of corn for genetic variability as basis for increasing nutritive value.....	3,427
Research on the oat cyst nematode.....	20,000

1975 Obligations

Development of alternative insecticides for resistant tobacco budworm on cotton.....	5,041
Synthesis, characterization, and stabilization of attractant chemicals for bioassay and field testing against corn earworm (<u>Heliothis Zea</u>).....	20,000
Rapid sterilization of bollweevils by vacuum fumigation with the chemosterilant hempa.....	20,003
Spectrophotometric prediction of forage quality.....	49,000
Foreign exploration for lygus bug control agents....	20,000
<u>Research on Conservation and Use of Land and Water Resources and Protecting Environmental Quality</u>	
Increasing irrigation efficiency in Wellton-Mohawk District of Arizona.....	40,891
Feasibility study for fertilizing plants through leaves or bark.....	1,625
Development of alternative insecticides for resistant tobacco budworm on cotton.....	13,963
<u>Research on Watershed Development</u>	
Development of alternative insecticides for resistant tobacco budworm on cotton.....	3,873
<u>Marketing Efficiency Research</u>	
Treatment for plant pests of quarantine importance (Caribbean Fruit Fly).....	87,164
Prototype evaluation of new energy-saving caustic peeling process for potatoes and other vegetables.	7,504
Equip a protein and amino acid analytical laboratory at Manhattan, Kansas.....	25,547
Equipment for improving packaging and shipment of agricultural products.....	49,970
Beef carcass studies - determinants of beef carcass quality.....	65,000
<u>Research to Improve Human Health and Safety</u>	
Toxicological evaluation of aflatoxin-contaminated corn treated with ammonia:	
Poultry feeding studies at Clemson Univ.....	33,200
Swine feeding studies at Univ. of Georgia.....	33,000
Total, 1975 Obligations.....	959,306
Unobligated balance.....	40,694
Total available 1975 Contingency Research Fund.....	<u>1,000,000</u>

Current activities. As of December, 1975 a total of \$381,000 has been approved for release from the Contingency Research Fund in F.Y. 1976.

	<u>1976 Estimated Obligations</u>
<u>Animal Production Efficiency Research:</u>	
Control of Alfombrilla (<u>Drymaria arenarioides</u> H.B.K.)	\$ 2,500
Research to determine the sources of infection and potential methods of controlling ornithosis outbreaks in turkeys	40,000
<u>Plant Production Efficiency Research</u>	
Control of Alfombrilla (<u>Drymaria arenarioides</u> H.B.K.)	36,000
Implementation of management program for cotton insects utilizing <u>Heliothis</u> resistant varieties	25,000
Develop methods for control of the peachtree borer and the lesser peachtree borer	10,000
Research to prevent the Mediterranean fruit fly from entering Mexico and U.S.A.	75,000
Screen ARS basic collection of pea accessions for presence of pea seed-borne mosaic virus	12,500
Effects of increased ultraviolet radiation on agricultural production	50,000
Effect of resistant corn on the biology of the Southwestern corn borer	15,000
Eradication of horn flies, <u>Haematobia irritana</u> , from Molokai, Hawaii	25,000
<u>Research on Conservation and Use of Land and Water Resources and Protecting Environmental Quality:</u>	
Develop methods to estimate soil water content, evapotranspiration, and crop yields using thermal parameters	30,000
<u>Marketing Efficiency Research</u>	
Feasibility study for using solar energy to dry corn	10,000
Determination of beef carcass quality	10,000
Controlling tobacco insects on farm-stored tobacco	10,000
<u>Research on Human Nutrition</u>	
Survey of home canning practices	30,000
Total, 1976 approved for release from the Contingency Research Fund	<u>381,000</u>
Balance to be allocated prior to June 30, 1976	<u>619,000</u>
Total available, 1976 Contingency Research Fund	<u>1,000,000</u>

STATEMENT OF OBLIGATIONS AND MAN-YEARS

BY LOCATION

LOCATION	Actual 1975		Estimated 1976		Estimated 1977	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
ALABAMA, Auburn.....	1,148,219	55	1,231,600	53	1,423,200	53
ALASKA, Palmer.....	432,536	10	468,900	16	472,700	16
ARIZONA						
Flagstaff.....	125,097	5	147,100	7	148,700	7
Mesa.....	149,394	8	162,400	7	164,500	7
Phoenix.....	2,488,564	119	2,686,300	104	2,805,100	104
Tucson.....	2,057,115	88	2,066,300	90	2,091,500	90
Total.....	4,820,170	220	5,062,100	208	5,209,800	208
ARKANSAS, Stuttgart.....	113,387	2	164,800	2	165,800	2
CALIFORNIA						
Albany.....	10,616,709	435	11,609,400	444	11,762,800	444
Brawley.....	628,708	32	683,300	37	693,100	37
Chico.....						
Davis.....	517,861	15	458,500	14	508,000	14
Fresno.....	1,489,599	59	1,510,300	58	1,573,300	58
Indio.....	176,164	11	209,200	11	212,700	11
La Jolla.....						
Pasadena.....	518,416	16	472,900	16	480,700	16
Riverside.....	1,708,789	63	1,805,200	69	1,870,500	69
Salinas.....	688,357	32	715,300	36	724,300	36
Shafter.....	581,017	26	564,900	23	572,800	23
Total.....	16,925,620	689	18,029,000	708	18,398,200	708
COLORADO						
Akron.....	198,703	9	195,800	8	198,700	8
Denver.....	1,047,493	42	1,124,900	44	1,135,400	44
Fort Collins.....	1,949,782	77	2,370,500	98	2,412,000	98
Total.....	3,195,978	128	3,691,200	150	3,746,100	150
DISTRICT OF COLUMBIA						
Program.....	1,231,195	75	1,295,400	78	1,491,500	78
Headquarters						
Agency Management Svcs...	18,801,840	541	21,890,600	544	22,099,200	544
Centrally Finance Progs..	652,437	5	7,663,500	5	12,834,000 ^{a/}	5
Subtotal.....	19,454,277	546	29,554,100	549	34,933,200 ^{a/}	549
Total.....	20,685,472	621	30,849,500	627	36,424,700	627
DELAWARE						
Georgetown.....	251,973	11	193,200	8	238,700	8
Newark.....	258,014	12	284,300	13	287,000	13
Total.....	509,987	23	477,500	21	525,700	21

^{a/} Includes \$2,314,800 of budget increases (amounts and locations to be determined based on available scientific expertise).

STATEMENT OF OBLIGATIONS AND MAN-YEARS

BY LOCATION

LOCATION	Actual 1975		Estimated 1976		Estimated 1977	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
FLORIDA						
Belle Glade.....	141,321	7	145,200	6	146,300	6
Bradenton.....	42,319	1	36,800	1	37,200	1
Brooksville.....	179,617	3	171,900	3	172,900	3
Canal Point.....	312,911	16	342,200	15	345,900	15
Fort Lauderdale.....	69,611	2	72,700	2	73,500	2
Gainesville.....	3,207,387	131	3,590,600	136	3,959,400	136
Lake Alfred.....	92,398	4	96,900	4	98,200	4
Miami.....	527,871	26	554,800	21	610,800	21
Orlando.....	1,538,989	74	1,589,700	76	1,696,000	76
Winter Haven.....	514,790	24	543,200	24	550,100	24
Total.....	6,627,214	288	7,144,000	288	7,690,300	288
GEORGIA						
Athens.....	4,813,617	225	5,574,800	241	5,811,600	241
Byron.....	1,062,009	56	1,235,500	60	1,251,000	60
Dawson.....	460,180	24	495,000	25	501,000	25
Experiment.....	127,937	4	216,100	7	217,600	7
Savannah.....	1,485,954	76	1,569,600	77	1,609,000	77
Tifton.....	2,332,961	111	2,624,500	103	2,783,900	103
Watkinsville.....	787,266	35	763,400	35	774,100	35
Total.....	11,069,924	531	12,478,900	548	12,948,500	548
HAWAII						
Hilo.....	179,005	10	241,000	11	244,300	11
Honolulu.....	816,663	28	775,000	31	782,900	31
Total.....	995,668	38	1,016,000	42	1,027,200	42
IDAHO						
Aberdeen.....	158,521	5	214,100	6	259,500	6
Boise.....	442,596	20	464,500	18	471,400	18
Dubois....	639,113	17	555,200	19	692,800	19
Twin Falls.....	1,060,153	52	1,128,600	52	1,188,600	52
Total.....	2,300,383	94	2,362,400	95	2,612,300	95
ILLINOIS						
Chicago.....	101,133	3	124,800	4	125,900	4
Peoria.....	10,606,759	464	11,567,500	474	11,156,200	474
Urbana.....	1,065,929	44	1,326,500	44	1,408,000	44
Total.....	11,773,821	511	13,018,800	522	12,690,100	522
INDIANA						
Lafayette.....	853,603	31	1,132,000	35	1,351,600	35
Vincennes.....	185,721	10	199,600	7	201,400	7
Total.....	1,039,324	41	1,331,600	42	1,553,000	42
IOWA						
Ames.....	6,467,598	296	7,968,300	319	8,169,200	319
Ankeny.....	246,024	11	343,300	13	346,200	13
Total.....	6,713,622	307	8,311,600	332	8,515,400	332

STATEMENT OF OBLIGATIONS AND MAN-YEARS

BY LOCATION

LOCATION	Actual 1975		Estimated 1976		Estimated 1977	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
KANSAS, Manhattan.....	1,900,221	74	2,146,600	79	2,385,700	79
KENTUCKY, Lexington.....	552,107	28	613,400	30	621,300	30
LOUISIANA						
Baton Rouge.....	821,042	41	884,900	44	893,500	44
Crowley.....	43,920	2	44,300	2	44,900	2
Houma.....	616,335	28	678,900	30	686,200	30
Jeanerette.....	115,902	4	114,400	4	115,100	4
Lake Charles.....	158,976	7	166,300	7	168,500	7
New Orleans.....	12,513,830	485	12,617,000	492	12,624,400	492
Shreveport.....	5,350	--	--	--	--	--
Total.....	14,275,355	567	14,505,800	579	14,532,600	579
MAINE, Orono.....	363,621	13	418,000	14	421,700	14
MARYLAND						
Beltsville.....	36,355,813	1,642	40,391,000	1,717	40,949,100	1,717
College Park.....	60,532	4	--	--	--	--
Frederick.....	758,742	25	1,316,900	26	1,388,600	26
Glenn Dale.....	198,564	12	242,700	12	246,700	12
Hyattsville.....	1,472,991	72	3,133,800	103	3,156,200	103
Total.....	38,846,642	1,755	45,084,400	1,858	45,740,600	1,858
MICHIGAN, East Lansing.....	1,492,269	64	1,671,300	72	1,784,100	72
MINNESOTA						
East Grand Forks.....	245,360	10	275,000	10	279,000	10
Minneapolis.....	118,105	4	128,600	4	129,900	4
Morris.....	709,674	39	748,300	40	761,400	40
St. Paul.....	915,005	34	996,500	35	1,113,900	35
Total.....	1,988,144	87	2,148,400	89	2,284,200	89
MISSISSIPPI						
Gulfport.....	149,315	8	155,600	8	157,500	8
Meridian.....	195,385	11	201,900	13	290,900	13
Oxford.....	1,266,554	55	1,364,300	54	1,379,000	54
Poplarville.....	76,566	3	69,600	3	70,400	3
Mississippi State.....	2,192,610	94	2,682,800	96	2,708,200	96
Stoneville.....	3,753,404	173	3,968,000	176	4,005,900	176
Total.....	7,633,834	344	8,442,200	350	8,611,900	350
MISSOURI, Columbia.....	1,993,307	86	2,192,400	93	2,217,800	93
MONTANA						
Bozeman.....	490,672	17	509,500	18	515,300	18
Miles City.....	404,936	6	602,200	10	605,400	10
Sidney.....	549,303	26	608,200	29	659,400	29
Total.....	1,444,911	49	1,719,900	57	1,780,100	57

STATEMENT OF OBLIGATIONS AND MAN-YEARS

BY LOCATION

LOCATION	Actual 1975		Estimated 1976		Estimated 1977	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
NEBRASKA						
Clay Center.....	3,675,024	46	4,838,500	56	5,019,800	56
Lincoln.....	951,416	34	999,900	32	1,010,500	32
Total.....	4,626,440	80	5,838,400	88	6,030,300	88
NEVADA, Reno.....	280,997	11	281,000	12	371,600	12
NEW JERSEY						
Belle Meade.....						
New Brunswick.....	195,020	8	231,900	8	233,900	8
Total.....						
NEW MEXICO						
Albuquerque.....	216,918	9	219,900	8	223,000	8
Las Cruces.....	612,215	28	770,700	30	776,600	30
Santa Rosa.....	---	--	---	--	---	--
Total.....	829,133	37	990,600	38	999,600	38
NEW YORK						
Geneva.....	116,589	4	150,000	4	151,300	4
Ithaca.....	1,241,080	46	1,355,000	60	1,585,200	60
Plum Island.....	6,543,385	314	7,753,300	319	8,397,300	319
Total.....	7,901,054	364	9,258,300	383	10,133,800	383
NORTH CAROLINA						
Oxford.....	729,166	39	809,300	36	845,100	36
Raleigh.....	1,323,393	47	1,795,500	54	2,090,300	54
Total.....	2,052,559	86	2,604,800	90	2,935,400	90
NORTH DAKOTA						
Fargo.....	2,851,355	126	3,298,600	124	3,397,000	124
Grand Forks.....	1,210,302	18	1,364,700	35	1,370,200	35
Mandan.....	988,480	44	1,168,500	52	1,187,500	52
Total.....	5,050,137	188	5,831,800	211	5,954,700	211
OHIO						
Coschocton.....	388,284	18	574,900	23	584,600	23
Delaware.....	333,088	14	373,000	15	379,200	15
Wooster.....	720,113	32	782,000	33	790,300	33
Total.....	1,441,485	64	1,729,900	71	1,754,100	71
OKLAHOMA						
Chickasha.....	635,423	39	651,500	34	711,400	34
Durant.....	488,394	25	544,700	21	550,600	21
El Reno.....	168,446	4	373,300	16	374,500	16
Stillwater.....	516,052	21	610,900	21	686,100	21
Woodward.....	227,897	15	300,100	13	303,100	13
Total.....	2,036,212	104	2,480,500	105	2,625,700	105

STATEMENT OF OBLIGATIONS AND MAN-YEARS

BY LOCATION

LOCATION	Actual 1975		Estimated 1976		Estimated 1977	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
OREGON						
Burns.....	83,886	2	74,100	2	75,000	2
Corvallis.....	977,913	39	964,800	36	1,026,500	36
Pendleton.....	539,271	8	542,700	19	545,800	19
Total.....	1,601,070	49	1,581,600	57	1,647,300	57
PENNSYLVANIA						
University Park.....	971,326	40	1,264,700	49	1,320,600	49
Wyndmoor.....	7,583,798	320	8,044,000	348	7,231,300	348
Total.....	8,555,124	360	9,308,700	397	8,551,900	397
SOUTH CAROLINA						
Charleston.....	638,410	35	687,600	34	741,700	34
Clemson.....	835,320	35	952,200	35	965,100	35
Florence.....	673,869	32	733,900	32	743,400	32
Total.....	2,147,599	102	2,373,700	101	2,450,200	101
SOUTH DAKOTA, Brookings-Madison.....	747,303	37	850,500	36	920,600	36
TENNESSEE						
Greenville.....	126,652	6	242,400	13	244,000	13
Jackson.....	63,057	3	71,400	3	72,100	3
Knoxville.....	605,541	27	789,600	30	796,500	30
Lewisburg.....	85,166	4	83,500	4	84,400	4
Total.....	880,416	40	1,186,900	50	1,197,000	50
TEXAS						
Austin.....						
Beaumont.....	247,079	12	264,700	12	329,200	12
Big Spring.....	105,242	5	137,500	5	182,500	5
Brownsville.....	909,678	49	896,700	44	907,800	44
Brownwood.....	142,230	7	326,500	10	354,400	10
Bushland.....	693,103	31	842,300	31	852,000	31
College Station.....	3,655,706	171	3,970,500	159	4,081,500	159
El Paso.....	44,538	2	45,700	3	46,300	3
Kerrville.....	1,209,729	61	1,218,000	55	1,235,300	55
Lubbock.....	576,809	25	611,100	26	618,800	26
Mission.....	373,071	17	497,300	20	501,500	20
Temple.....	566,652	24	1,392,800	43	1,399,700	43
Vernon (Chillicothe).....	120,094	4	204,000	4	205,000	4
Weslaco.....	1,890,920	101	2,007,100	97	2,232,400	97
Total.....	10,534,851	509	12,414,200	509	12,946,400	509
UTAH, Logan.....	1,263,667	52	1,425,100	58	1,551,600	58
VERMONT, Burlington.....	228,034	10	---	--	--	--

STATEMENT OF OBLIGATIONS AND MAN-YEARS

BY LOCATION

LOCATION	Actual 1975		Estimated 1976		Estimated 1977	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
VIRGINIA						
Blacksburg.....	104,172	5	101,700	5	102,400	5
Richmond.....	112,310	5	129,400	5	130,600	5
Suffolk (Holland).....	273,427	12	290,900	12	295,000	12
Total.....	489,909	22	522,000	22	528,000	22
WASHINGTON						
Prosser.....	754,051	34	826,300	36	837,600	36
Pullman.....	1,238,356	56	1,553,900	65	1,642,900	65
Puyallup.....	37,712	2	-0-	0	- -	- -
Wenatchee.....	531,747	22	569,300	22	575,900	22
Yakima.....	1,046,778	49	1,046,100	42	1,062,000	42
Total.....	3,608,644	163	3,995,600	165	4,118,400	165
WEST VIRGINIA, Morgantown....	188,455	7	384,300	14	386,800	14
WISCONSIN, Madison.....	965,410	44	1,176,000	48	1,187,600	48
WYOMING						
Cheyenne.....	198,125	10	349,100	13	351,800	13
Laramie.....	103,601	5	284,500	10	286,100	10
Total.....	301,726	15	633,600	23	637,900	23
PUERTO RICO						
Mayaguez.....	616,244	39	608,800	40	617,100	40
Rio Piedras.....	191,812	7	289,600	12	291,400	12
Total.....	808,056	46	898,400	52	908,500	52
VI RGIN ISLANDS, St. Croix....	141,828	9	183,000	11	184,400	11
MEXICO						
Iguala.....	1,217	--	--			
Tuxtla Gutierrez	--	--	178,100	2	178,100	2
OTHER FOREIGN COUNTRIES						
Argentina.....	5,881	--	7,900	- -	8,000	- -
El Salvadore.....	188,096	1	181,400	2	184,300	2
France, Paris.....	221,674	8	226,900	8	230,600	8
India, New Delhi.....	7,000	- -	- -	- -	- -	- -
Italy, Rome.....	121,131	5	125,600	5	127,500	5
Kenya.....	78,325	2	88,600	2	90,000	2
Netherlands, Rotterdam.....	195,942	4	229,800	5	233,500	5
Pakistan.....	57,761	1	52,200	2	53,000	2
Thailand.....	70,937	1	57,400	2	58,300	2
Total.....	946,747	22	969,800	26	985,200	26

STATEMENT OF OBLIGATIONS AND MAN-YEARS

BY LOCATION

LOCATION	Actual 1975		Estimated 1976		Estimated 1977	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
Construction of facilities...	6,420,000	- -	10,395,000	- -	- -	- -
Contingency research fund...	a/	- -	1,000,000	- -	1,000,000	- -
Unobligated balance.....	1,365,171	- -	- -	- -	- -	- -
Total, available or estimate.	224,450,000	9,054	263,304,000	9,474	264,202,000	9,474

a/ Obligations of \$959,306 of the \$1,000,000 appropriated in 1974 are included above.

(b) Scientific Activities Overseas (Special Foreign Currency Program)

Appropriation Act, 1976	\$ 7,500,000
Budget Estimate, 1977	<u>10,000,000</u>
Increase	<u>+2,500,000</u>

PROJECT STATEMENT
(on basis of appropriation)

Project	1975 Actual	1976 Estimate	Increase or Decrease	1977 Estimate
1. Market development research, Sec. 104(b)(1)	\$ 700,000	\$1,000,000	\$ 500,000	\$ 1,500,000
2. Agricultural and forestry research Sec. 104(b)(3)	3,850,000	5,850,000	+1,850,000	7,700,000
3. Translation and dissemi- nation of scientific publications, Sec. 104(b)(3)	450,000	650,000	+150,000	800,000
Total, appropriation	<u>5,000,000</u>	<u>7,500,000</u>	<u>+2,500,000</u>	<u>10,000,000</u>

The following statement reflects carryover into succeeding years of actual or estimated prior year balances and shows total actual or planned obligations.

PROJECT STATEMENT
(on basis of available funds)

Project	1975 Actual	1976 Estimate	Increase or Decrease	1977 Estimate
1. Market development research, Sec. 104(b)(1)	\$ 349,211	\$1,000,000	\$ +500,000	\$ 1,500,000
2. Agricultural and forestry research, Sec. 104(b)(3)	6,263,620	6,824,309	+875,691	7,700,000
3. Translation and dissemi- nation of scientific publications Sec. 104(b)(3)	- -	1,101,702	-301,702	800,000
Total, obligations	6,612,831	8,926,011	+1,073,989	10,000,000
Unobligated balance start of year.....	-3,038,842	-1,426,011	+1,426,011	- -
Unobligated balance end of year	+1,426,011	- -	- -	- -
Total, available or estimate ..	<u>5,000,000</u>	<u>7,500,000</u>	<u>+2,500,000</u>	<u>10,000,000</u>

EXPLANATION OF PROGRAM

Foreign currencies which the Treasury Department determines to be excess to the normal requirements of the United States are used for expenses of carrying out programs of the Department of Agriculture as authorized by law and described under sections 104(b) (1) and 104(b) (3) of the Agricultural Trade Development and Assistance Act of 1954, as amended. Research is carried on through agreements negotiated with research institutions and organizations in foreign countries. The research must be of importance to American agriculture. It serves to preserve and expand existing markets and develop new ones for agricultural commodities. It provides for research supplementary to domestic programs on problems of farm, marketing, utilization, agricultural economics and human nutrition, and makes possible the conduct of research on exotic insect pests and diseases of plants and animals which could not be done in the United States. Specialized projects provide for the translation and dissemination of foreign language scientific publications. The increase proposed in 1977 would be used to purchase foreign currencies in those countries determined to be excess to the normal requirements of the United States to expand overseas research of value to U.S. agriculture. Total estimated cost in U.S. dollars (charged to regular appropriations) for program direction and supervision of projects in 1977 is \$725 thousand.

JUSTIFICATION OF INCREASE

SPECIAL FOREIGN CURRENCY RESEARCH.....\$2,500,000

Objective: Expand research to benefit U.S. agriculture, increase markets for U.S. agricultural commodities, and assist foreign agricultural development.

Need for Increase: The program benefits U.S. agriculture and helps participating countries to further enhance their research capabilities without adverse effect on U.S. balance of payments. The increase of \$2,500,000 proposed in FY 1977 would be used to finance research overseas through the purchase of excess foreign currencies. For FY 1977, excess currencies are expected to be available in seven countries--Burma, Guinea, India, Pakistan, Poland, Tunisia, and Arab Republic of Egypt. Based on surveys of the scientific capacity of foreign institutions and evaluation of research proposals submitted by these institutions, the total amount requested for FY 1977 can be effectively used to finance research of a mutual interest.

Anticipated obligations for FY 1976 based on available and negotiated research proposals total approximately \$8.0 million. A balance is not anticipated.

At present, there are approximately 99 approved research proposals which cannot be financed with FY 1976 funds, 84 additional proposals are being reviewed or being revised by Department scientists, and based on past experience an additional 100 proposals will be received during the course of 1976. Of those received in 1976, approximately 45 are expected to be approved for research. Leading into FY 1977, we should have over 228 approved proposals awaiting financing of which approximately 75 could be funded within the FY 1977 estimate of \$10,000,000.

Overseas research utilizing foreign currencies under Sections 104(b)(1) and (3) of Public Law 480, as amended, supplements and complements research conducted in the United States under regular dollar appropriations. These foreign research projects do not duplicate or displace domestic research conducted by the Department or its cooperators. The projects are of mutual interest to the United States and the host countries.

Plan of Work: The \$5 million increase in foreign currencies will be used for new grants to undertake studies aimed at solving high priority agricultural problems such as new and improved uses of cotton; improvement of market quality of exported farm products; improvement of transportation and storage methods; research on cereal grains, legumes and oilseeds; research on pesticide residues; research on improved soil and water use; and research to develop and apply alternative agricultural production systems in narcotic producing areas. Other important program priorities to be continued will be pollution; food safety; nutrition and health; livestock production, protection, and quality, environmental resources; timber production; plant protection; new and improved plant germ plasm; and research to find parasites and predators to control crop pests of economic importance.

STATUS OF THE SPECIAL FOREIGN CURRENCY RESEARCH PROGRAM (SFCRP)

In Fiscal year 1958, the Department initiated a research grant program abroad utilizing foreign currencies from the sale of surplus agricultural commodities under Title I of Public Law 480. Originally confined to market development research authorized by Section 104(b) (1) of P.L. 480, as amended, the program was subsequently expanded to include agricultural and forestry research under Section 104(b) (3) of the law, as amended. In fiscal year 1966, the authorization changed to permit the use of all excess currencies for work performed under the Special Foreign Currency Program. Activities sponsored fall into the following general areas:

1. Agricultural research, including research on plant and animal production; use and improvement of soil, water and air; and research on marketing, use and effects of agricultural products.
2. Forestry research, including research on the protection of forests from fires, diseases and insects; on methods and procedures for increasing the growth of managed forests, and on properties and uses of forest products.
3. Agricultural economics research, including farm and market economics research and foreign trade analysis.

Dollar-financed research in these areas is conducted by the Agricultural Research Service, the Forest Service, and the Economic Research Service in their respective areas of functional and subject-matter responsibilities. Research under this program is designed to complement and not to duplicate or displace the dollar-financed research activities of these agencies.

Within the Department, primary responsibility for administration of this program is assigned to the Agricultural Research Service. The activities are coordinated with operations in the Forest Service, Economic Research Service, and the Foreign Agricultural Service by the Director, International Programs Division, ARS. The Director coordinates development of broad policies for operations of the program and coordinates the activities of the various Department agencies in carrying out research financed by foreign currencies. Initial arrangements and budget clearances for the research in foreign countries are made through the Department of State as required by Executive Order 10900, Section 3(b) and (c), and through the Agricultural Attaches of the Foreign Agricultural Service of the Department.

Prior to executing any research agreement with a foreign institution, the Department again consults with the Agricultural Attaches and Heads of Missions to insure that the proposed projects would be consonant with the foreign policy of the United States.

Care is exercised to make certain that research projects undertaken benefit American agriculture and do not develop undesirable competition for American agricultural products abroad. Careful attention is given to the type of institution conducting research under this program to make certain it has the facilities, equipment, and personnel to carry out sound and productive research. Because of these high standards about 56 percent of the proposals received from foreign institutions have been rejected by the Department; 39 percent of the proposals have been accepted, and these agreements have been executed or are awaiting execution; and final determination has not yet been made on acceptance or rejection of the remaining 5 percent.

Selected Examples of Recent Progress: Through June 30, 1975, a total of 1,606 research agreements have been obligated with foreign research institutions. In fiscal year 1975, 35 new agreements were obligated. Agreements vary in total amount for the life of the project from approximately \$12,000 to slightly over \$350,000 dollar equivalent. Recent examples of research progress under these agreements follow:

AGRICULTURAL RESEARCH

1. Greenbug Resistance Found in Sorghums. Sorghum germplasm collected in India has contributed a natural resistance to greenbugs in new hybrid sorghums now being produced by U.S. commercial seed companies. The new resistant hybrids are expected to add \$8 to 12 million to the yearly income of sorghum farmers. The new hybrids not only will spare farmers the cost of buying and applying insecticides to control greenbugs, but also will reduce the level of insecticides released to the environment. Seed companies expect to have enough seed of the new hybrids available to plant 50 percent of the 1976 sorghum crop. By 1977, the new hybrids will be available in sufficient quantities to plant the entire crop.
2. Resistance of Wheats to Stored-Grain Insects. Wheat varieties collected in India have shown varying degrees of resistance to the rice weevil and the lesser grain borer, two major pests of stored grain. ARS wheat breeders are now trying to transfer this resistance into wheats to be grown in this country. Success will result in greatly reduced losses of wheat in storage. Data obtained to date from ARS experiments in Kansas indicate that two of the imported India varieties developed only about 4 percent insect infestation while comparison varieties developed over 90 percent infestation.
3. Preventing Livestock Losses from Circling Disease. Animal disease research in Yugoslavia showed that poor quality silage can provide a growing media for the bacterial organism that causes listeriosis, or circling disease, in sheep and cattle. The organism thrives in silage when the acidity level is too low. To avoid the problem, the research showed farmers must be sure that silage additives have sufficient acidity and that scraps of waste silage are not allowed to accumulate where animals can get to them. Listeriosis causes abortion and affects the central nervous system. Affected animals often wander in aimless circles, thus the name circling disease. This study provides new information for better silage management techniques and ways of preventing losses from listeriosis in U.S. herds.
4. Better Apple Crops. Biennial bearing of apples is a problem in the United States. Fruit thinning is practiced to try to even out the crop differences from year to year. For some time it has been suspected that it is the seeds, rather than the fruit, which in heavy crop years produce the hormones that depress formation of the new flower buds that will make the succeeding year's crop. This explains the alternating pattern of heavy and light crops. Polish investigators provided detailed information concerning production of the hormone gibberellic acid by the seed. They also clarified the hormonal relationship between the developing seed and the plant, and explained how this relationship controls the biennial cropping phenomenon. USDA scientists are applying this information by spraying anti-hormonal compounds on leaves in minute amounts per acre at times when the seeds are most actively producing and releasing their flower bud inhibiting hormones. This Polish research is opening the way for apple growers to even out and improve their annual cropping patterns and also is being used as a means for inducing trees to produce fruit at a younger age.

5. Fumigation of Foods and Feeds. Israeli scientists demonstrated that fumigant residues do not constitute a health hazard for humans or animals when fumigation is done using regularly recommended procedures. The fumigants studied were: carbon tetrachloride, trichlorethylene, ethylene dichloride, ethylene dibromide and mixtures of these fumigants. Their research results stressed the importance of adequate aeration of foods and feeds, after fumigation with ethylene dibromide and before feeding to breeding bulls and laying hens, to avoid possible effects of chronic poisoning in these animals. The analytical methods developed for the determination of fumigant residues in products and for the assessment of poisoning in animals are highly useful in conducting evaluation of fumigants in U.S. laboratories.
6. New Raspberry Varieties. Breeding trials in Yugoslavia have produced superior varieties of raspberries showing thornlessness, resistance to the aphid vector of virus diseases in North America, and potential resistance to root rot. Fruit color also was studied and determined to be the result of multiple-gene inheritance. The benefit of this research to U.S. agriculture is the additional germplasm added to the U.S. breeding program where it is being used for improvement of domestic raspberry varieties, especially in developing thornless, self-supporting varieties with an extended fruiting season.
7. Greater Efficiency from Dairy Heifers. Animal scientists found in an Israeli study that well-fed dairy heifers reach puberty as young as 6 to 8 months, although the scientists recommend delaying breeding until 11 months. This finding has major implications for U.S. dairy farmers. The common practice in the United States is to delay breeding until dairy heifers are 15 to 17 months old. The Israeli work showed that well-fed heifers can be bred at 11 months with only a small sacrifice of milk yield during the first year of production. During the second and third years, early-bred heifers yield as much milk as older-bred heifers. Over their productive lifetimes, early-bred heifers produce more milk per day of life. In all, the study shows that farmers can realize a greater return from their dairy heifers by feeding at a high nutritional level and breeding them at about 11 months of age.

FORESTRY RESEARCH

8. Biological Control of the Gypsy Moth. An Indian study has identified several new parasites of the gypsy moth--potentially the most serious defoliator of hardwood trees in the Eastern United States. The gypsy moth, a worldwide forest pest native to Europe, Asia, and North Africa, was introduced into the United States from Europe. American scientists previously have imported gypsy moth parasites from Europe, and they are in varying stages of trial at this time. There is now less likelihood of finding additional promising control parasites in that part of the world. On the other hand, the gypsy moth parasites of Asia have not been well explored. U.S. Forest Service entomologists are enthusiastic about the gypsy moth control potential of the parasites identified in the Indian study. The Forest Service has released Indian gypsy moth parasites, representing 8 different genera of insects, and is carefully determining their control potential under U.S. conditions.

Special Foreign Currency Program
Research Proposals and Agreements by Subject Matter
(Cumulative: to June 30, 1975)

	Number of Proposals				Total Number of Agreements Obligated		Total Number of Agreements Currently Active	
	Received	Rejected	Awaiting Modification Negotiation or Review	Approved (Proposals) Awaiting Obligation	Number	Dollar Equivalent	Number	Dollar Equivalent
Agriculture Research Service	3,868	2,237	72	182	1,377	\$88,124,048	333	\$25,225,110
Forestry Research	493	237	8	29	219	14,066,130	60	5,422,674
Agricultural Economics Research	160	106	7	3	44	2,470,939	14	1,206,308
Statistical Reporting Service	3	2	-	-	1	32,073	-	- 1,467
Animal & Plant Inspection Service	1	-	-	1	-	---	-	---
TOTALS	4,525	2,582	87	215	1,641	\$104,693,190	407	\$31,852,625

Obligations, Expenditures and Conversions of Foreign Currencies

Obligations: Through June 30, 1975, a total of \$110,915,643 (including \$4,677,355 for administrative expenses) has been obligated for activities under the Special Foreign Currency Program. In fiscal year 1976, and transitional year, an additional \$8,926,000 and 1,850,000, respectively, will be used. These obligations are summarized as follows:

Cumulative Obligations through F.Y. 1976 and Transitional
(dollars in thousands)

<u>Fiscal Year</u>	<u>Market Development Research (sec. 104(b)(1))</u>	<u>Agricultural and Forestry Research (sec. 104(b)(3))</u>	<u>Translation of Publications and Scientific Cooperation, Executive Office of the President a/ Total</u>
1958	\$ 371.5	- -	\$ 371.5
1959	1,651.8	- -	1,653.5
1960	2,230.5	- -	3,023.7
1961	1,893.2	\$1,832.4	5,290.8
1962	2,859.0	5,294.6	8,749.4
1963	2,566.3	5,000.7	7,815.6
1964	3,214.8	4,466.4	8,236.7
1965	3,485.8	5,408.1	8,966.1
1966	703.7	3,877.4	4,381.6
1967	1,620.6	7,953.2	9,688.3
1968	991.9	6,317.0	7,264.8
1969	971.9	4,733.2	5,705.1
1970	790.5	4,076.0	4,866.5
1971	654.0	4,171.8	4,825.8
1972	840.4	5,853.6	6,694.0
1973	1,026.1	7,995.8	9,021.9
1974	195.9	7,551.5	7,747.4
1975	349.2	6,263.6	6,612.8
1976 (est'd.)	1,000.0	7,926.0	8,926.0
Transitional (7/1 - 9/30/76 est'd.)	300.0	1,550.0	1,850.0
Total	\$27,717.1	\$90,271.3	\$121,691.5

a/ This fund merged with Special Foreign Currency Program by the Department of Agriculture and Related Agencies Appropriation Act, 1969.

The following tables present a more detailed picture of the \$6,612,831 obligated in 1975 and the \$8,926,000 estimated to be obligated in 1976 and 1,850,000 Transitional for the Special Foreign Currency Program.

Special Foreign Currency Program, FY 1975 Obligations
(In Thousands)

<u>Country</u>	<u>Market Development Research</u>		<u>Agricultural and Forestry Research</u>			<u>Total</u>
	<u>Section 104(b)(1)</u>	<u>Section 104(b)(3)</u>	<u>Agri-cultural Research</u>	<u>Agri-cultural Economics Research</u>	<u>Forestry Research</u>	
Austria	\$ - .4	-	-	-	-	\$ - .4
Burma	-	.5	-	-	-	.5
Colombia	-	.1	-	-	-	.1
Egypt	-	2,290.1	-	-	\$ 69.4	2,359.5
Germany	1.0	-	-	-	-	1.0
Guinea	-	.9	-	-	-	.9
India	50.7	530.1	21.1	-	71.0	672.9
Israel	- 32.9	- 100.3	- 5.9	-	- 8.1	- 147.2
Italy	50.6	1.9	-	-	1.9	54.4
Morocco	-	20.3	-	-	-	20.3
Pakistan	73.3	1,195.9	206.2	-	384.9	1,860.3
Poland	216.3	1,231.1	-	-	388.3	1,835.7
Sri Lanka	-	- 4.3	- .7	-	- .7	- 5.7
Tunisia	-	116.3	-	-	29.0	145.3
Turkey	-	- 2.6	-	-	-	- 2.6
United Kingdom	- .2	-	-	-	-	- .2
Yugoslavia	- 9.2	- 137.2	-	- 2.3	- 33.1	- 181.8
Total	\$349.2	\$5,142.6	\$218.4	\$902.6		\$6,612.8

NOTE: Negative obligations shown here result from the effect that changes in the rate of exchange have on the dollar value of unliquidated obligations.

Special Foreign Currency Program, Estimated FY 1976 Obligations
(In Thousands)

Country	Market Development Research Section 104(b)(1)	Agricultural and Forestry Research Section 104(b)(3)				Total
	Agricultural Research	Agri- cultural Research	APHIS	Agri- cultural Economics Research	Forestry Research	
Burma	- -	\$ 1.0	- -	- -	- -	\$ 1.0
Egypt	\$131.6	1,435.7	- -	\$497.7	- -	2,065.0
Germany, West	1.0	- -	- -	- -	- -	1.0
Guinea	- -	100.0	- -	- -	- -	100.0
India	343.0	1,120.9	- -	- -	\$194.1	1,658.0
Italy	40.0	2.5	- -	- -	2.5	45.0
Pakistan	300.0	1,170.0	\$125.8	- -	413.2	2,009.0
Poland	184.4	1,076.6	- -	- -	385.0	1,646.0
Tunisia	- -	299.4	- -	- -	.6	300.0
Totals	\$1,000.0	\$5,206.1	\$125.8	\$497.7	\$995.4	\$7,825.0
Transfer to National Science Foundation for translation of scientific publications						
						\$1,101.0
GRAND TOTAL						\$8,926.0

Expenditures: Expenditures of foreign currencies, from the inception of the program through June 30, 1975, totaled \$90,712,349. In addition, the Department plans to expend \$8,515,000 in fiscal year 1976 and \$2,153,000 in Transitional year. These expenditures may be summarized as follows:

Cumulative Expenditures through F.Y. 1976 and Transitional
(In Thousands)

<u>Fiscal Year</u>	<u>Market Development Research</u>	<u>Agricultural and Forestry Research</u>	<u>Translation of Publications and Scientific Cooperation Executive Office of the President ^{a/}</u>	<u>Total</u>
1959	\$ 195.1	\$ -	\$ 0.1	\$ 195.2
1960	654.6	-	75.1	729.7
1961	1,254.9	350.2	495.2	2,100.3
1962	1,735.8	1,351.8	425.6	3,513.2
1963	2,136.8	2,071.7	590.9	4,799.4
1964	2,292.9	2,514.9	655.5	5,463.3
1965	2,816.3	3,724.6	616.0	7,156.9
1966	2,435.2	4,113.9	211.2	6,760.3
1967	2,487.0	4,754.6	224.7	7,466.3
1968	1,951.0	5,028.8	200.5	7,180.3
1969	1,598.9	5,454.6	-	7,053.5
1970	1,092.6	4,863.4	-	5,956.0
1971	955.9	4,753.1	-	5,709.0
1972	884.2	5,337.3	-	6,221.5
1973	704.1	4,644.0	-	5,348.1
1974	731.2	7,052.9	-	7,784.1
1975	783.6	6,491.7	-	7,275.3
1976 (est'd.)	766.4	7,748.6	-	8,515.0
Transitional (7/1 - 9/30/76 est'd.)	194.0	1,959.0	-	\$ 2,153.0
Total	\$25,670.5	\$72,215.1	\$3,494.8	\$101,380.4

Cumulative Expenditures through F.Y. 1976 and Transitional (Cont'd.)
(In Thousands)

Conversions: As of June 30, 1975, the Department had converted a total of \$4,833,448 of foreign currencies as follows:

<u>Fiscal Year</u>	<u>(Dollars in Thousands)</u>
1961	\$ 770.0
1962	1,432.0
1963	1,910.1
1964	<u>721.3</u>
Total	<u>\$4,833.4</u>

a/ This fund merged with Special Foreign Currency Program by the Department of Agriculture and Related Agencies Appropriation Act, 1969, are included in the preceeding table.

(c) Working Capital Fund, Agricultural Research Center

This Working Capital Fund has been a continuing operating fund established by the 1951 Agricultural Appropriation Act with an appropriation of \$300,000 to finance the operating costs of certain centralized services and facilities at the Agricultural Research Center, Beltsville, Maryland, pending receipt of reimbursements for such costs from the agencies provided with the services. The integrity of the original appropriation has been maintained from year to year by means of these reimbursements.

Effective July 1, 1973, the activities are being carried out and financed under the Agricultural Research Service regular appropriation. Services performed for other agencies are now on a reimbursable basis. The fund was dissolved as of June 30, 1974, and the initial \$300 thousand appropriation, returned to the General Fund of the Treasury on June 30, 1975.

Passenger Motor Vehicles

The 1977 Budget Estimate does not include any purchase of additional passenger motor vehicles. A total of 90 vehicles will be replaced.

Replacements

Replacements would be made of 90 of the 470 (including 7 buses) passenger motor vehicles operated at field stations engaged in research. These vehicles are used in travel where no public transportation is available, such as to farms, ranches, cooperating experiment stations, etc., and in travel to remote sections of large stations. They are essential for collecting experimental data and materials necessary for facilitating research work.

It is estimated that all of the 90 passenger vehicles to be replaced will have mileage of more than 60,000 or be 7 or more years old.

Age and Mileage Data for passenger-carrying vehicles on hand as of June 30, 1975:

<u>Age-Year</u> <u>Model</u>	<u>Number of</u> <u>Vehicles</u> */	<u>Percent</u> <u>of Total</u>	<u>Lifetime</u> <u>Mileage</u> (thousands)	<u>Number of</u> <u>Vehicles</u> */	<u>Percent</u> <u>of Total</u>
1965	10	2	80-100	10	2
1966	7	2	60-80	53	12
1967	8	2	40-60	136	32
1968	48	10	20-40	150	29
1969	66	14	Under 20	<u>116</u>	<u>25</u>
1970	74	16		465	100
1971	82	18			
1972	25	5			
1973	89	19			
1974	53	11			
1975	<u>3</u>	<u>1</u>			
Total	465	100			

*/ Excludes 9 vehicles used in foreign countries, and 7 buses.

Aircraft

Replacements

The one replacement plane would be one designed specifically for agricultural work and would be used by technicians in investigating and demonstrating the use of special equipment for suppression of destructive insects attacking crops. Replacements will be made by purchase or from surplus sources. Planes rapidly become obsolete and uneconomical to repair and are subject to many mishaps. Replacement will not be made, however, if it is found practical and economically feasible to retain the present equipment.

Additions

The one additional aircraft requested is urgently needed to maximize the data gathering potential of ARS remote sensing missions in the Southwest. The aircraft would provide photography up to 20,000 feet; this is currently available through NASA on a very restricted basis. Since a minimum of 300 hours of flying time is required annually to fulfill ARS missions, the additional aircraft would result in an estimated annual savings of \$18,000 over commercial service. In addition, commercial aircraft often are not available at critical times (10:00 a.m. - 2:00 p.m.) during clear days that are essential for aerial photography. Other advantages of the requested aircraft include increased acreage per photographic frame due to increased altitude capability and faster coverage due to higher ground speeds.

The aircraft would be used for immediate remote sensing studies involving citrus blackfly, imported fire ant, greenbug on sorghum and wheat, pecan pests, and other pests of citrus, vegetables and sugar cane.

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

Purpose Statement

The Animal and Plant Health Inspection Service was established by the Secretary of Agriculture on April 2, 1972, under the authority of the Reorganization Plan No. 2 of 1953, and other authorities. The major objectives of the Service are to protect consumers from unwholesome meat and poultry products and to protect the animal and plant resources of the Nation from diseases and pests. These objectives are carried out under three major areas of activity as follows:

1. Meat and poultry inspection: The Agency inspects meat and poultry products in plants shipping in interstate and foreign commerce, reviews inspection systems in foreign establishments producing for export to the United States, and provides technical and financial assistance to States to maintain their meat and poultry inspection programs.
2. Animal and plant disease and pest control: Survey, diagnostic and quarantine activities are carried out to control, eradicate, or prevent the introduction of animal and plant diseases and pests. Control and eradication programs are conducted to combat existing diseases and pests.
3. Other Regulatory activities: Development of standards for, and the licensing and testing of veterinary biologicals to ensure their safety and effectiveness, and the inspection of certain establishments which handle animals intended for research, exhibition and pet purposes, as defined by law, to insure their humane treatment are other regulatory activities performed by the Agency.

The Service maintains central offices in the Washington metropolitan area. However, most of the Service's work is conducted at numerous field locations, meat and poultry plants, and at points of entry in the fifty states, Puerto Rico, and the Virgin Islands. Much of the work is conducted in cooperation with State and local agencies, private groups, and foreign governments. As of October 31, 1975, there were 13,437 permanent full time employees including 949 in the central office.

Available Funds and Man-Years

1975 and Estimated, 1976 and 1977

Item	Actual		Estimated		Budget Estimate	
	1975		Available, 1976		1977	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Animal and Plant Health:						
Inspection Service:			b/			
Appropriation a/.....	\$419,072,000	14,380	\$369,972,000	14,545	\$399,882,000	14,428
Obligations under						
other USDA approp-						
riations:						
Agricultural Market-						
ing Service for						
meat grading.....	82,455	4	193,000	4	195,400	4
Agricultural						
Research Service						
to develop mass						
rearing procedures:						
and perform field						
evaluations in the:						
gypsy moth research						
program.....	331,453	10	325,000	5	327,000	5
Miscellaneous						
reimbursements....	50,046	1	20,500	1	20,600	1
Total, Other USDA						
Appropriations	463,954	15	538,500	10	543,000	10
Total, Agriculture:						
Appropriations	419,535,954	14,395	370,510,500	14,555	440,425,000	14,438
Animal Quarantine						
Station.....	- -	- -	100,000	- -	327,000	- -
Other Federal Funds....	829,076	8	1,106,600	11	1,123,000	11
Non-Federal Funds.....	27,526,393	254	29,825,900	258	30,196,500	258
Total, Animal and						
Plant Health						
Inspection Service....	447,891,423	14,657	401,543,000	14,824	432,071,500	14,707

End-of-Year Employment:	1975	1976	1977
	<u>Actual</u>	<u>Estimated</u>	<u>Estimated</u>
Permanent Full-time..	13,437	13,725	13,725
Other c/.....	1,601	1,775	1,775
Total.....	<u>15,038</u>	<u>15,500</u>	<u>15,500</u>

a/ Includes \$62,900,000 in F.Y. 1975, \$2,550,000 in F.Y. 1976 and \$833,000 in F.Y. 1977 for repayment with interest to the Commodity Credit Corporation of funds advanced under the emergency authority of the Secretary (21 U.S.C. 129). The amounts obligated under the emergency authority from funds advanced from CCC not included in the above were \$1,689,464 in FY 1975 and \$510,536 in FY 1976.

b/ Includes proposed supplemental for increased pay costs of \$9,010,000.

c/ Excludes 156 disadvantaged youth and public service trainees in F.Y. 1975 and 154 similar employees in F.Y. 1976.

(a) Animal and Plant Health Inspection Service

Appropriation Act, 1976.....	\$361,075,000
Budget Estimate, 1977.....	<u>399,882,000</u>
Increase in Appropriation.....	<u>+38,807,000</u>

Adjustments in 1976:

Appropriation Act, 1976.....	\$361,075,000	
1976 Supplemental Appropriation for		
pay costs.....	+9,010,000	
Transfer to Department of State for		
administrative costs.....	<u>-113,000</u>	
Adjusted base for 1977.....		369,972,000
Budget Estimate, 1977.....		<u>399,882,000</u>
		<u>+29,910,000</u>

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	<u>1976</u> <u>Estimate</u>	<u>Increase or</u> <u>Decrease</u>	<u>1977</u> <u>Estimate</u>
Meat and poultry			
inspection.....	\$212,985,000 <u>a/</u>	+ \$8,064,000	\$221,049,000
Boll weevil.....	- -	+ 1,700,000	1,700,000
Pest detection.....	975,000	+ 1,212,000	2,187,000
Brucellosis eradication.....	32,539,000	+ 7,145,000	39,684,000
Import-export inspection.....	3,557,000	+ 1,026,000	4,583,000
Screwworm.....	23,802,000	+ 4,500,000	28,302,000
Burrowing nematode.....	372,000	- 372,000	- -
Japanese beetle.....	1,159,000	- 1,159,000	- -
White-fringed beetle.....	115,000	- 115,000	- -
Construction of facilities.....	- -	+ 3,800,000	3,800,000
Repayment to CCC.....	2,550,000	- 1,717,000	833,000
GSA space costs.....	3,914,000	+ 165,000	4,079,000
Travel costs.....	- -	+ 2,250,000	2,250,000
Annualization of the pay cost			
increase effective in FY 1976...	9,010,000	+ 3,411,000	12,421,000
All other.....	<u>78,994,000</u>	- -	<u>78,994,000</u>
Total available.....	<u>369,972,000</u>	<u>+29,910,000</u>	<u>399,882,000</u>

a/ Excludes proposed supplemental of \$7,644,000.

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1975	1976 (estimate)	Increase or Decrease	1977 (estimate)
1. Meat and poultry inspection:				
(a) Slaughter operations.....	101,655,270	106,382,000	+7,612,000	113,994,000
(b) Processing operations.....	46,963,546	54,316,000	+3,244,000	57,560,000
(c) Export-import inspection.....	2,502,277	2,855,000	+ 404,000	3,259,000
(d) Compliance.....	2,714,624	2,974,000	+ 77,000	3,051,000
(e) Scientific and technical.....	10,270,168	14,040,000	+ 549,000	14,589,000
(f) Grants to aid compliance and inspection.....	34,774,897	40,045,000	- -	40,045,000
Total, Meat and poultry inspection.....	198,880,782	220,612,000	+11,886,000 (1)	232,498,000
2. Plant disease and pest control:				
(a) Plant Protection:				
(1) Barberry eradication.....	930,477	1,048,000	+ 19,000	1,067,000
(2) Boll weevil.....	876,985	1,068,000	+1,716,000	2,784,000
(3) Burrowing nematode.....	370,496	378,000	- 378,000	- -
(4) Cereal leaf beetle.....	823,011	1,272,000	+ 19,000	1,291,000
(5) Citrus blackfly and Mexican fruit fly.....	1,378,754	1,096,000	+ 41,000	1,137,000
(6) Golden nematode.....	775,540	861,000	+ 13,000	874,000
(7) Grasshopper and Mormon cricket.....	988,140	1,278,000	+ 19,000	1,297,000
(8) Gypsy moth.....	2,475,394	2,585,000	+ 42,000	2,627,000
(9) Imported fire ant.....	8,707,572	9,217,000	+ 131,000	9,348,000
(10) Japanese beetle.....	1,327,835	1,177,000	-1,177,000	- -
(11) Khapra beetle.....	122,382	157,000	- -	157,000
(12) Miscellaneous plant diseases and pests.....	214,894	- -	- -	- -
(13) Pest detection.....	1,061,412	1,041,000	+1,236,000	2,277,000
(14) Pest management.....	849,400	- -	- -	- -
(15) Pink bollworm.....	2,651,880	3,000,000	+ 51,000	3,051,000
(16) White-fringed beetle.....	576,510	123,000	- 123,000	- -
(17) Witchweed.....	3,104,459	2,758,000	+ 45,000	2,803,000
Total, Plant Protection.....	27,235,141	27,059,000	+1,654,000	28,713,000
(b) Agricultural Quarantine Inspection.....	22,078,032	23,138,000	+ 418,000	23,556,000
Total, Plant disease and pest control.....	49,313,173	50,197,000	+2,072,000 (2)	52,269,000
3. Animal disease and pest control:				
(a) Animal health:				
(1) Animal care.....	2,435,981	2,595,000	+ 45,000	2,640,000
(2) Brucellosis eradication.....	30,779,977	33,350,000	+7,502,000	40,852,000
(3) Cattle ticks.....	1,816,809	1,827,000	+ 31,000	1,858,000
(4) Emergency programs.....	2,319,272	1,898,000	+ 20,000	1,918,000
(5) Foot-and-mouth disease (Darien Gap).....	1,441,672	1,984,000	+ 14,000	1,998,000
(6) Hog cholera eradication..	5,694,799	4,089,000	+ 97,000	4,186,000
(7) Import-export inspection..	3,999,883	3,711,000	+1,090,000	4,801,000
(8) Interstate inspection of livestock.....	2,183,336	3,660,000	+ 35,000	3,695,000
(9) Miscellaneous animal diseases and pests.....	2,099,211	2,673,000	+ 37,000	2,710,000
(10) Poultry diseases.....	698,753	892,000	+ 9,000	901,000
(11) Scabies eradication.....	1,050,731	1,719,000	+ 21,000	1,740,000
(12) Screwworm.....	21,545,829	24,448,000	+4,783,000	29,231,000
(13) Tuberculosis eradication..	4,679,765	6,239,000	+ 69,000	6,308,000
(14) Repayment to CCC.....	62,900,000	2,550,000	-1,717,000	833,000
Total, Animal health.....	143,646,018	91,635,000	+12,036,000	103,671,000
(b) Veterinary biologics.....	4,773,841	5,028,000	+ 116,000	5,144,000
Total, Animal disease and pest control.....	148,419,859	96,663,000	+12,152,000 (3)	108,815,000
4. Construction of facilities.....	16,300,000	- -	+3,800,000 (4)	3,800,000

Project	1975	1976 (estimate)	Increase or Decrease	1977 (estimate)
5. Contingencies:				
(a) Plant disease and pest control.....	735,000	1,250,000	- -	1,250,000
(b) Animal disease and pest control.....	418,000	1,250,000	- -	1,250,000
Total, Contingencies.....	1,153,000	2,500,000	- -	2,500,000
Unobligated balance.....	5,005,186	- -	- -	- -
Total, available or estimate - appropriated funds.....	419,072,000	369,972,000	+29,910,000	399,882,000
6. Advances and reimbursements:				
(a) Meat and poultry inspection	22,334,775	23,823,000	+ 303,000	24,126,000
(b) Plant disease and pest control.....	4,224,043	5,034,000	+ 77,000	5,111,000
(c) Animal disease and pest control.....	368,572	360,000	- -	360,000
Total, Advances and reimbursements..	26,927,390	29,217,000	+ 380,000	29,597,000
Total, available or estimate.....	445,999,390	399,189,000	+30,290,000	429,479,000
Transfer to State Department.....	- -	+ 113,000	- 113,000	- -
Pay cost supplemental.....	- 8,806,000	- 9,010,000	+ 9,010,000	- -
Receipts from advances and reimbursements	-26,927,390	-29,217,000	- 380,000	-29,597,000
Total, appropriation.....	410,266,000	361,075,000	+38,807,000	399,882,000

a/ Excludes proposed supplemental of \$7,644,000.

EXPLANATION OF PROGRAM

The Appropriation "Animal and Plant Health Inspection Service" funds the following activities.

1 Meat and poultry inspection.---Federal inspection is required for all meat, poultry, and processed products moving in interstate and foreign commerce. All meat and poultry moving in intrastate commerce must be federally inspected or inspected by States with inspection systems meeting Federal standards. Activities include inspection of animals, carcasses, meat and poultry products at various stages of handling and processing, and the regulation of labeling. The Federal program also provides financial and technical assistance to States for maintaining the quality of their inspection programs. Extensive laboratory analyses are conducted for detection of economic fraud, chemical residues, antibiotics, and other additives.

Meat and poultry and their products are inspected under the authority of the Federal Meat Inspection Act (21 U.S.C. 601-624; 641-645; 661; 671-680) and the Federal Poultry Products Inspection Act (21 U.S.C. 451-470). There are several other acts relating to the inspection program and administration, such as the Humane Slaughter Act (7 U.S.C. 1901-1906) and miscellaneous provisions of law relating to meat inspection (21 U.S.C. 98).

The scope of inspection is indicated by examples given in the following table:

	1975 <u>actual</u>	1976 <u>estimate</u>	1977 <u>estimate</u>
Federally inspected establishments:			
Meat.....	3,874	3,878	3,883
Poultry.....	669	682	690
Combination Meat and Poultry.....	<u>1,341</u>	<u>1,372</u>	<u>1,434</u>
	5,884	5,932	6,007
Federally inspected production:			
(Millions of pounds)			
Meat slaughter.....	36,015	34,742	38,929
Meat processing.....	52,470	54,665	56,502
Poultry slaughter.....	10,332	10,518	11,304
Poultry processing.....	17,709	18,013	18,661
Cooperative agreements with States:			
Meat.....	40	35	35
Poultry.....	31	28	28

The Federal government has assumed State meat inspection programs in fifteen States and poultry inspection programs in twenty-two States.

2. Plant disease and pest control.---In cooperation with the States, programs are conducted to eradicate or prevent spread to uninfested areas of certain plant pests which are established in this country. Surveys are conducted to detect harmful pests and diseases. An inspection program is conducted at ports of entry to prevent the entrance of insects, nematodes, and diseases which are harmful to the plant life of the United States. Plants and plant products are also certified for export.

The statutory authority supporting this program is contained in Title 7 U.S.C., Agriculture, Chapter 7, 7a, 7b, 8, 11, 15, 17, and 55; and Title 49 U.S.C., Transportation, Chapter 20. The principal legislative authority for these activities is contained in the Federal Plant Pest Act; the Plant Quarantine Act; and Section 102 of the Organic Act of 1944. In addition the program has recently been given the authority to control noxious weeds under P.L. 93-629 enacted January 3, 1975.

The level of activities for plant pest control is shown by the selected examples that follows:

	<u>1975 actual</u>	<u>1976 estimate</u>	<u>1977 estimate</u>
Acres treated (thousands):			
Boll weevil.....	598	750	750
Grasshopper.....	677	1,000	1,000
Gypsy moth.....	15	N/A	N/A
Imported fire ant.....	12,679	18,000	18,000
Japanese beetle.....	16	5	- -
White-fringed beetle.....	9	- -	- -
Sterile insects released (millions):			
Mexican fruit fly.....	21	23	23
Pink bollworm (adult moth).....	68	100	100
Parasites released:			
Cereal leaf beetle (sites).....	820	450	450

The level of activities for agriculture quarantine inspection at ports of entry is as follows:

	<u>1975 actual</u>	<u>1976 estimate</u>	<u>1977 estimate</u>
Plant and animal byproduct import inspection:			
Airplanes (thousands).....	302	305	310
Vessels (thousands).....	66	65	65
Vehicles from Mexico (millions).....	42	43	44
Baggage, pieces (millions).....	100	112	120
Mail packages (millions).....	60	62	64
Interceptions (thousands):			
Unauthorized plant materials...	700	750	770
Plant pests.....	34	36	38
Imported animal byproducts pounds.....	311	350	N/A

3. Animal disease and pest control.---Programs are conducted to keep communicable diseases of foreign origin from entering this country and to prevent the spread of disease through interstate shipments of livestock or distribution of impure or impotent veterinary biologics. In cooperation with States, other programs are directed at the control and eradication of livestock diseases present in this country. The animal welfare program is concerned with the humane care and handling of approximately 40 million warmblooded animals.

The Statutory authority for this work is contained in Title 7 U.S.C., Agriculture, Chapters 15, 17, 30, and 54; Title 15 U.S.C., Commerce and Trade, Chapter 44; Title 19 U.S.C., Customs Duties, Chapter 4; Title 21 U.S.C., Food and Drugs, Chapters 4, 5, and 45; Title 46 U.S.C., Shipping, Chapter 15; and Title 49 U.S.C., Transportation, Chapter 20. Principal legislative authority for these activities is contained in the Act of May 29, 1884; Act of August 30, 1880; Act of February 2, 1903; Act of March 3, 1905; Tariff Act of June 17, 1930; Act of February 28, 1947; Act of September 6, 1961; Act of July 2, 1962; the Animal Welfare Act; the Horse Protection Act; and the Virus-Serum-Toxin Act.

The level of activities for the major control programs on animal diseases and pests is as follows:

	1975 <u>actual</u>	1976 <u>estimate</u>	1977 <u>estimate</u>
Brucellosis:			
Certified Free States.....	29	30	32
Modified Certified States.....	23	22	20
States with zero infection.....	4	4	6
Total number of infected herds found during year.....	16,600	17,000	17,000
Hog Cholera:			
Certified Free States.....	50	50	50
Confirmed Primary Outbreaks.....	0	2	0
Screwworm:			
Cases in U.S. outside of barrier zone.....	145	680	600
Cases in U.S. part of barrier zone.	7,270	16,000	12,000
Cases in Mexico part of barrier zone.....	10,619	13,500	13,500
Sterile fly production (millions weekly).....	177	190	190
Scabies:			
Number of counties quarantined for cattle scabies as of June 30.....	9	8	10
Tuberculosis (cattle):			
States accredited free.....	5	8	9
Herds located.....	47	30	22
Herds depopulated (per yr.).....	29	20	15
Cattle ticks:			
Premises quarantined outside barrier zone because of infesta- tion with cattle fever ticks.....	21	27	20
Exotic New castle Disease Surveillance Program:			
Investigations of suspected outbreaks.....	143	150	150
Monitor primary breeding flocks for biologic security.....	80	0 ^{1/}	0
Veterinary biologics:			
Number serials produced.....	11,502	11,500	13,000
Percent tested for:			
Potency.....	23	20	18
Purity.....	15	12	9
Sterility.....	35	33	30
Regulatory inspections conducted...	42	50	50
Import inspection:			
Animals (thousands).....	1,431	1,200	1,700
Personally owned pet birds (thousands).....	3.0	4.6	5.0
Animal Care:			
Complaint investigation.....	710	750	750
Number of inspections conducted under Animal Welfare Act.....	18,489	20,000	20,000

^{1/} This unit completed. No further projections.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$11,886,000 for meat and poultry activities consisting of:
- (a) An increase of \$2,247,000 for annualization of pay increases effective in FY 1976.
- (b) An increase of \$75,000 for space rental costs pursuant to P.L. 92-313.

The agency is required to budget for the cost of agency occupied GSA controlled space. The increased funds requested in the 1977 budget would provide for space necessary to maintain the Agency's programs at an acceptable level.

- (c) An increase of \$1,500,000 for travel costs pursuant to P.L. 94-22.

This increase would provide funding for the added expense of travel created by the passage of the Travel Amendments Act of 1975, P.L. 94-22, which increased domestic travel allowance rates by an average of approximately 25%. In order to comply with the regulations set forth by the Wholesome Meat and Wholesome Poultry Products Acts which assure the public of high quality, untainted products, it is necessary for Department personnel to travel to slaughter and processing plants to guarantee compliance with these regulations. Travel was reduced 15% in the meat and poultry inspection programs during FY 1975. Further cutbacks cannot be made without serious operating problems occurring.

- (d) An increase of \$8,064,000 for meat and poultry inspection activities (\$212,985,000 available in 1976).

Need for Increase

The Department is charged by law with designating states which have not established or maintained a meat and poultry system at least equal to the Federal system. Once a state has been so designated, all plants formerly inspected under the state inspection system become the responsibility of the Federal inspection system.

In March, 1975, the Department assumed responsibility for 11 Talmadge-Aiken plants in the State of Michigan. This resulted in an additional 26 man-years of service required in fiscal year 1976.

During the first six months of fiscal year 1976, it was necessary to designate the States of New York, New Jersey, Colorado, Connecticut and Tennessee as states requiring Federal assumption of intrastate inspection responsibilities. As a result of designation of these states, the Department assumed responsibility for inspection of 891 plants which will require an additional 360 man-years in FY 1976.

Plan of Work

Designation of a State meat and poultry inspection system by the Federal program involves the temporary detail of some experienced Federal personnel to oversee and implement the transition from a State system to the Federal program. The effort involves transfer of qualified State inspection personnel to the Federal program, and additional recruitment of new Federal personnel, if necessary. All these items require funding if consumers are to continue to have an adequate supply of safe, wholesome, unadulterated, and properly labeled meat and poultry products.

A supplemental appropriation of \$7,644,000 is proposed for FY 1976 to finance the costs of Federal assumption of inspection responsibilities in the States previously mentioned.

- (2) A net increase of \$2,072,000 for plant disease and pest control activities consisting of:

(a) An increase of \$475,000 for annualization of pay increases effective in FY 1976.

(b) An increase of \$51,000 for space rental costs pursuant to P.L. 92-313.

The agency is required to budget for the cost of agency occupied GSA controlled space. The increased funds requested in the 1977 Budget would provide for space necessary to maintain the Agency's programs at an acceptable level.

(c) An increase of \$280,000 for travel costs pursuant to P.L. 94-22.

This increase would provide funding for the added expense of travel created by the passage of the Travel Amendments Act of 1975, P.L. 94-22, which increased domestic travel allowance rates by an average of approximately 25%. Federal acts providing for plant protection and quarantine action to protect U.S. agriculture require that personnel have continuous mobility to prevent entry of dangerous pests and to control and eradicate those foreign pests that have become established and threaten wide areas of crops not yet infested. Funds are not now available for reprogramming to provide for increased costs of essential travel.

(d) An increase of \$1,700,000 for the boll weevil eradication trial program (No funds available in 1976).

Need for Increase

The boll weevil is the most serious and devastating pest of agriculture in the United States. The estimated loss to the cotton industry is between \$200 and \$300 million annually due to loss of production, with an additional cost of \$75 to \$100 million per year for insecticidal control measures. It is estimated that this pest has cost more than \$12 billion since its introduction in 1892. A vast amount of the loss of production is borne by the small farmer who produces less than 10 acres of cotton and, therefore, does not have an economic unit of sufficient size to buy the necessary equipment to control this pest effectively.

The cotton industry adopted boll weevil eradication as an objective in the late 1950's, after the pest developed resistance to the organochlorine insecticides. They promoted an expanded research and development program which led to the development of new control technology. All available control technology was integrated into a system which was used in a pilot boll weevil eradication experiment in Mississippi, Alabama, and Louisiana during 1971-73. This experiment was a cooperative effort of the cotton industry and State and Federal agencies. A technical guidance committee, which developed guidelines for implementation of the experiment and evaluated the results, concluded that the experiment demonstrated that it is technically and operationally feasible to eradicate the boll weevil from the United States by methods which are economically and ecologically acceptable.

However, in the course of reviewing results obtained in the eradication experiment, some uncertainties were identified as to the possibility of execution of an eradication program throughout the entire Cotton Belt because of the requirement of such a high level of cooperation on the part of so many agencies and producers. Also of concern were the size or scale of the effort which would be necessary, and whether or not the necessary precision could be attained. As a result of these uncertainties and because of the magnitude of the proposed eradication program, it was decided, in consultation with industry, State, and Federal authorities, that the next logical step was to

conduct a trial eradication program of sufficient scope to answer these questions and to defer any decision on beltwide eradication until this work is completed.

Plan of Work

A plan has been developed for a three-year trial eradication program which will be carried out on approximately 240,000 acres of cotton located on the eastern periphery of the Cotton Belt in the States of Virginia, North Carolina, and South Carolina. The program will be initiated in FY 1977. It will be executed during the first and second years of operation on 45,000 acres in Virginia and northeastern North Carolina. Following evaluation of progress during this two-year period, a decision will be made as to whether or not to include an additional 195,000 acres during the third year of the program.

The proposed trial program will be based upon the methodology developed in the Mississippi pilot project. The basic techniques developed at that time will be expanded to a large scale trial eradication effort which may require minor modifications of these techniques to fit the production practices in the area of the trial.

The program will consist of the following suppression components:

1. Voluntary inseason and reproduction diapause control by growers - Growers will be expected to execute a diapause control program over the entire area prior to initiation of the eradication program. This activity will be purely voluntary on the part of the grower.
2. Information and education - We will conduct an intensive information and education program to achieve maximum effectiveness in the inseason and and diapause control activities by the growers.
3. Inseason control - Inseason control with insecticides will be utilized as the initial phase of the program to reduce weevil populations to low levels and thereby enhance the effectiveness of reproduction--diapause control. The use of precisely timed insecticide treatments is the most effective method for reducing high boll weevil populations. Inseason treatment will be made in compliance with the recommendations of the State research agencies. Surveys will be made at weekly intervals during the season to effectively time, execute, and evaluate the necessary treatment.
4. Grandlure traps - Following the execution, grandlure-baited traps will be used in aggregating overwintering boll weevils for population reduction. Trap crops, consisting of selected areas of cotton near the field borders and adjacent to boll weevil hibernation sites, will be maintained in every cotton field during the second year. In the third year, trap crops will be used only in fields where infestations were detected the preceding season.
5. Aerial distribution - Aerial distribution of sterile boll weevils is the final phase of the eradication program. This action is designed to prevent aggregation and reproduction of the few weevils that may have survived other control measures. Sterile weevils will be released over all fields during the second year and over approximately 25 percent of the third year.
6. Regulatory activities - Experience with the boll weevil eradication effort has indicated that to achieve success, 100% participation is required by the cotton growers in the area. To achieve this level of participation, the following regulatory authorities of the States involved will be used when necessary to enforce quarantines, reporting, etc.

In order to provide for a comprehensive evaluation of the efficiency of a program to eliminate the boll weevil as an economic pest, a concurrent program to measure only the effects of a pest management approach to the problem will also be conducted by the Department in a different area of the Cotton Belt. The area selected will be comparable to the trial eradication site, however. The evaluation of these two approaches must be based upon the effects of the two programs on weevil elimination, crop yield, net income to the cotton producer and on the environmental impact of each.

(e) An increase of \$1,212,000 for pest detection (\$975,000 available in FY 1976).

Need for Increase

U.S. crops have become increasingly vulnerable to attacks by pest and pathogens. The same modern agricultural practices which have contributed to our increase in production also favor the development of pests and pathogens. There are still many insects and diseases not presently known to occur in the United States which would be of major economic significance if introduced on various crops. They include the following: red bollworm and spiny bollworm on cotton which can cause annual losses of 40-90%, maize stalk borer and durra stalk borer which damage corn at levels over 50% in uncontrolled situations; senn pest of wheat which seldom causes losses of less than 25% of the entire crop; the cereal leaf minor which can produce annual losses ranging from 20-100% in areas favorable to its development; nun moth which defoliates conifers and deciduous trees, rivalling the gypsy moth in importance; and false codling moth which heavily damages citrus and attacks many other plants including cotton.

The same serious threat exists with respect to plant diseases. Many new plant diseases have entered the United States and the threat is not diminishing. Among the major foreign diseases we do not have are downy mildews of corn and sugarcane, citrus canker and orange scab, soybean rust, cereal rusts and rice blast. Therefore, organized surveys and prompt reporting are needed to detect and chart the spread of new and existing plant diseases throughout the United States. As with insect pests, early detection of plant diseases improves the chances for successful control or eradication measures.

Plan of Work

Increased emphasis would be placed on the detection of all exotic plant pests in all 50 States and the territories of the United States. It is proposed that teams of specialists in various plant pest disciplines be formed to intensely survey high hazard areas such as ports of entry and concentrations of high value agricultural crops. These teams will conduct surveys, make identifications, and submit periodic reports on all plant pest conditions. This information will be assembled, analyzed and disseminated to interested parties.

(f) A decrease of \$372,000 to eliminate the burrowing nematode program (\$372,000 available in 1976).

This program is conducted in Florida as a cooperative effort with the State. The Florida State Department of Agriculture and Consumer Services receives some of their funding from the citrus industry. The effort against burrowing nematode has been effective in preventing widespread loss to citrus in Florida and preventing spread to other citrus-producing areas of the United States. Since the principal Federal function is limited to conducting surveys to detect infestations on which the State can base regulatory and control activities, Federal participation has been under a planned reduction in recent years. It is expected that the State will take over survey responsibilities for the program once Federal participation is terminated.

(g) A decrease of \$1,159,000 to eliminate the Japanese beetle control program (\$1,159,000 available in 1976).

Japanese beetle infestation occurs in 24 States east of the Mississippi River and in St. Louis, Missouri. A spot infestation in San Diego, California, is under eradication. Since the beetle has been known in St. Louis, Detroit, Chicago, and Indianapolis since the early 1930's, some think it may have reached a natural ecological barrier in the Midwest. Chlorinated hydrocarbon insecticides, once used for effective control of the grub stage of the pest, are no longer available or cannot be used as needed because of restrictions on the application of these compounds. The adult beetle is now effectively controlled in orchards and crops through regular farmer-applied spray programs. For these reasons, the Department has been considering with its cooperators, a phaseout of the Japanese beetle program.

(h) A decrease of \$115,000 for white-fringed beetle control (\$115,000 available in 1976).

The white-fringed beetle has been in the U.S. for 38 years. Studies in recent years, after the beetle had become widespread, show that its impact on crops has been sporadic. It is not now considered a major pest of agricultural significance. The Federal quarantine was terminated on June 30, 1975. The reduced funds currently available support surveys on the periphery of the infestation to keep States not yet infested informed of the spread of the insect. This detection work can be incorporated in the existing National Pest Detection and Reporting Network.

(3) A net increase of \$12,152,000 for animal disease and pest control activities consisting of:

(a) An increase of \$689,000 for annualization of pay increase effective in FY 1976

(b) An increase of \$39,000 for space rental costs pursuant to P.L. 92-313. The agency is required to budget for the cost of agency occupied GSA controlled space. The increased funds requested in the 1977 Budget would provide for space necessary to maintain the Agency's programs at an acceptable level.

(c) An increase of \$470,000 for travel costs pursuant to P.L. 94-22. This increase would provide funding for the added expense of travel created by the passage of the Travel Amendments Act of 1975, P.L. 94-22, which increased domestic travel allowance rates by an average of approximately 25%. Travel is essential to the control and eradication of animal pests and diseases which are a threat to the economy of our Nation's agriculture. Without this constant surveillance and monitoring of agency programs, food production would decline and many meat animals would become diseased and have to be destroyed, thus decreasing the Nation's meat supply. Increased travel costs cannot be absorbed without decreased progress in all programs and a corresponding failure to meet projected goals.

(d) An increase of \$7,145,000 for brucellosis eradication (\$32,539,000 available in FY 1976.)

Need for Increase The Department has cooperated with the States and with the livestock industry to eliminate brucellosis from cattle and swine. As a result of these efforts, the incidence of the disease in cattle has been reduced from 11 percent to less than one percent. Production losses have dropped dramatically from the estimated \$100 million annual loss in 1948. Since that date the number of human cases of brucellosis has declined from over 6,000 to less than 200. However, the disease prevalence in both cattle and humans has been increasing since 1971. In order to prevent reintroduction of brucellosis into the 99 percent noninfected population and to eliminate the remaining more difficult foci of infection, brucellosis program activities must be accelerated to a more effective level.

One reason that the remaining foci have not been eliminated is that vaccination was decreased without the simultaneous increase in surveillance and control of exposed cattle as recommended. Vaccination and increased surveillance must be resumed.

The cooperative State-Federal program to eradicate brucellosis from the United States includes in its goal swine, as well as cattle. In recent years, significant gains have been made toward this goal and currently 14 States and the Virgin Islands are validated as free of swine brucellosis. To protect these States from reintroduction of swine brucellosis and to locate and eliminate infection in other States would require a more concerted program effort.

The technology needed to eradicate brucellosis is available. Additional resources to apply this technology at a more effective level would result in a reduction of the recent increased infection rate.

Plan of Work The requested increase would be used to increase bovine and swine slaughter surveillance in Federal and State packing plants. The renewed practice of vaccination of cattle would be supported and existing slaughter surveillance would be supplemented in selected high-risk areas with a system for testing eligible animals in marketing channels at first point of concentration.

In addition, task forces would be utilized in selected heavily infected areas to test all herds, and States not now involved in swine brucellosis eradication would be brought into the program as quickly as feasible.

(e) An increase of \$1,026,000 for import-export inspection (\$3,557,000 available in FY 1976).

Need for Increase The inspection of outbound baggage in Puerto Rico and the Virgin Islands is an essential measure to preclude the introduction of exotic Newcastle into the Continental United States, until such time as the disease is eradicated from these islands. The inspection of mainland bound baggage has, in prior years, been funded through CCC borrowing as part of an emergency operation. This activity must be continued so long as the disease exists in the islands, in order to protect the mainland poultry industry. Appropriated funds are requested in 1977.

When the Fleming Key Animal Import Center becomes operational in late 1977, selected cattle will be imported into the U.S. from FMD infected countries for the first time.

It is necessary that Department personnel be assigned to these countries to assure that all foreign animal health officials concerned understand U.S. requirements and meet them. Importers should have reasonable assurance that the source herds and animals selected from them would meet U.S. requirements.

The Department has statutory responsibility to ascertain and certify that healthy animals are exported from the United States and that those transported by sea are housed and cared for humanely. Increased worldwide demand for animal protein in the human diet coupled with the pyramiding revenues in oil exporting countries is causing a market increase in U.S. livestock and poultry exportations overseas. Reliable and realistic health certification and humane overseas transport of animals furthers world trade in U.S. livestock and poultry and aids U.S. balance of trade.

Plan of Work Because of the danger of reintroducing exotic Newcastle disease to the Continental United States, outbound baggage leaving Puerto Rico and the Virgin Islands will be inspected. The funds would be used to partially finance the inspectors now working in the islands who were previously financed through borrowings from CCC.

Two veterinarians and one lay inspector will be assigned to positions in Europe at least 12 months prior to the opening of Fleming Key. The inspectors will supervise and coordinate the program for testing and quarantining cattle from FMD infected countries prior to their export to the Fleming Key station. Contacts will be made with animal health officials in the exporting countries to assure that the U.S. requirements are understood and could be met. They will determine if barriers exist to prevent U.S. personnel performing such tests and quarantines in any of these countries. Cattle will pass primary tests and a final preembarkation quarantine period in isolation on selected premises. Department personnel will also be available for counsel to U.S. importing groups and individuals regarding questions on health problems in potential source herds.

The Department would continue and expand negotiations with foreign animal health officials regarding their health requirements for animals of U.S. origin, making certain that the requirements are within the capability of the U.S. livestock and poultry industry and the current state of animal and poultry health programs in the United States. The Department is also developing standards for export quarantine facilities and will approve four such facilities as well as 16 air port of embarkation inspection facilities in the United States.

(f) An increase of \$4,500,000 for U.S.-Mexican screwworm eradication program (\$23,802,000 available in FY 1976).

Need for Increase Original cost estimates for the establishment of a screwworm eradication program in Mexico have been increased. The C-45 aircraft that are available to us have been eliminated from the proposed fleet of fly release planes for the Mexican Program because of recent FAA regulations regarding cracked wing spars. Sterile flies will have to be released from C-47's, which are more expensive airplanes to operate. Fuel consumption in the C-47 aircraft is greater. In addition, two pilots instead of one pilot would be required. Operational costs of the C-47 are double those of the C-45. This change in aircraft would cost an additional \$1.25 million. An additional \$1.75 million would be required to offset the inflationary spiral in Mexico, which has been extensive. The two primary items covered by this increase are: (1) salaries for Joint Commission employees representing the major work force. (These salaries are not covered by regular Pay Act legislation.); and (2) the costs of supplies and materials to rear the flies. This increased level of funding will support the production and distribution of approximately 200 million sterile flies per week.

Because of inflation, additional funds will be required if operation of the U.S. barrier of sterile flies is to continue without interruption. To offset these cost escalations, the screwworm program will need additional funds for equipment, supplies, contractual services, utilities, travel, commercial repairs, and miscellaneous services.

Plan of Work The balance of the funds would be used primarily to complete construction and purchase equipment for field and plant facilities including final preparations for release of sterile flies from the new plant. In addition, sterile fly production at Tuxtla Gutierrez at the Isthmus of Tehuantepec would be increased to 200 million flies per week. Nearly 200 livestock inspectors would be deployed throughout most of Mexico to collect information on the prevalence of screwworms and to work with the livestock owners to reduce populations of screwworm flies through good husbandry practices and the judicious use of pesticides.

\$1.5 million of the increase would be used to continue operating the barrier of sterile flies along the United States border to protect U.S. livestock from migrating populations of screwworm flies from Mexico. Approximately 190 million flies per week will be produced at Mission, Texas.

(g) A net decrease of \$1,717,000 for repayment to Commodity Credit Corporation (\$2,550,000 available in FY 1976).

A total of \$833,000 will be required to repay CCC for an advance, and interest thereon, made during FY 1975 to provide additional financing for the exotic Newcastle emergency. This is offset by a decrease of \$2,550,000 that was provided in the FY 1976 Appropriation Act for repayment to CCC of an advance plus interest that was made to APHIS to combat the hog cholera emergency.

- (4) An increase of \$3,800,000 for construction of the New York Animal Import Center.

Need for Increase

Various animal quarantine laws require the Department to protect the United States against the introduction of livestock diseases from foreign countries. These protective measures include the detention of imported animals at the port of arrival to determine that such animals are free from communicable diseases and exposure thereto.

Public Law 88-592, September 12, 1964, authorized the Secretary of Agriculture to relocate the Clifton Animal Import Center and provided for the sale of the property to the City of Clifton, New Jersey, for public use. Soon after passage of the statute, Clifton officials deposited with the Department a sum of \$100,000 towards the total purchase price of \$526,000.

The Department, for ten years, has tried to locate a suitable site--evaluating some 55 different sites. At least five of the locations were acceptable, but due to demands for public parks and recreation areas, the properties could not be obtained. The new site at Stewart Airport in Newburgh, New York was eventually selected.

In fiscal year 1970, Congress appropriated \$1,500,000 for construction of the facility. This plus the \$526,000 sale price gives a total of \$2,026,000 available for construction.

During the long delay in acquiring a site, inflationary pressures in the economy have increased the costs of construction tremendously and the demand for space by importers has also increased. An additional \$3.8 million is needed for construction of a facility that will fulfill the needs of the livestock industry of the United States for the importation of animals from countries not infected with foot-and-mouth disease.

Plan of Work

Upon completion of the architectural-engineering contract for design of the facility in the fall of 1976, bids will be solicited on the construction contract. Construction should be underway by mid fiscal year 1977 and the center is expected to be completed within two years.

STATUS OF PROGRAM

The Animal and Plant Health Inspection Service was established on April 2, 1972, pursuant to the authority of the Reorganization Plan No. 2 of 1953. The Service carries out the Department's responsibility to insure for consumers a wholesome supply of meat and poultry and to protect the nation's sources of food, feed and other farm products from diseases and pests.

Federal inspection is provided for all meat and poultry products moving in interstate and foreign commerce. Labels are examined to insure that they correctly identify the product. In addition, Federal inspection of meat and poultry products is provided where the States are unable or unwilling to establish and maintain an inspection system at least equal to the Federal. In other States financial and technical assistance is furnished to State governments to aid in the operation of intrastate inspection programs which are at least equal to the Federal program.

Cooperative programs are conducted with State and local agencies and organizations to control, eradicate and prevent the movement of plant and animal diseases and pests. Inspection and regulatory programs are conducted to prevent introduction into the United States of pests and diseases of foreign origin and to prevent the spread of those within the country. Under the Virus-Serum-Toxin Act, activities are conducted to prevent the production and interstate distribution of worthless, contaminated, dangerous, and harmful veterinary biologics. Under authority of the Animal Welfare and Horse Protection Acts, activities are conducted to prevent the sale or use of animals which have been stolen, to insure that certain animals intended for use in research or for exhibition purposes are provided humane care and treatment, and to prevent the interstate movement and exhibition of horses which have been "sored".

MEAT AND POULTRY INSPECTION

Current Activities: The Federal Meat and Poultry Inspection Program is designed to insure the consumer that meat and poultry products are wholesome, unadulterated, and properly labeled. This goal is attained through direct Federal inspection of meat and poultry products in interstate and foreign commerce, cooperative agreements with States, and direct Federal inspection of products in intrastate commerce in those States where a cooperative agreement is not possible. Major direct Federal activities include:

1. Inspection of animals and poultry before and during slaughter.
2. Inspection of meat and poultry products and their processing to insure sanitary conditions.
3. Inspection of imported meat and poultry products.
4. Approval of labels, and insurance that processing is in accordance with the conditions of approval.
5. Inspection of meat and poultry for the presence of harmful pesticides and other chemical and biological residues.
6. On-site reviews of foreign inspection systems and plants exporting to the United States.
7. Certification of United States meat and poultry products for export.
8. Supervision of the destruction of condemned and other inedible meat and poultry for food purposes.

9. Regulation of related industries, including animal food manufacturers, brokers, shippers, and wholesalers; and dealers in dead, dying, diseased and disabled animals and poultry; to prevent their serving as a loophole through which uninspected or adulterated meat and/or poultry products could enter human food channels.
10. Providing analytical and consultative services in support of the national meat and poultry inspection program and to State and other Federal agencies in the field of chemistry, microbiology, pathology, parasitology, toxicology, and epidemiology.
11. Approval of plant facilities and equipment.

Major cooperative Federal-State activities include providing financial, technical, and training assistance to States to aid in the operation of inspection programs which are at least equal to the Federal system. Other cooperative efforts are designed to promote the most efficient use of Federal and State personnel.

Selected Examples of Recent Progress

1. Federal-State Cooperative Program.

All meat and poultry produced for commercial wholesale purposes is required by law to be inspected by the Federal or State inspection system. There are some very limited exemptions for poultry and poultry products for distribution in intrastate commerce. State inspection systems must comply with the "at least equal to" provisions of the Federal inspection laws or standards.

State meat inspection programs at least equal to the requirements of the Federal Meat Inspection Act remained certified in forty (40) States as of close of business, June 30, 1975. Kentucky, Minnesota, Missouri, Montana, Nebraska, Nevada, North Dakota, Oregon, Pennsylvania, Washington, Puerto Rico, the Virgin Islands, and Guam are the ten (10) States and three (3) territories in which the Federal government has assumed meat inspection responsibilities. However, early in fiscal year 1976, five (5) additional States requested designation for Federal inspection due to a lack of funds. They were Colorado, Connecticut, New Jersey, New York, and Tennessee, thus leaving a balance of thirty-five (35) States with meat inspection programs.

State poultry inspection programs at least equal to the Federal Poultry Products Inspection Act remained certified in thirty-one (31) States as of close of business, June 30, 1975. Arkansas, Colorado, Georgia, Idaho, Kentucky, Maine, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, North Dakota, Oregon, Pennsylvania, South Dakota, Utah, Washington, West Virginia, Puerto Rico, the Virgin Islands, and Guam are the nineteen (19) States and three (3) territories in which the Federal government has assumed poultry inspection responsibilities. Three (3) additional States have been designated for Federal inspection, they are Connecticut, New Jersey and Tennessee.

In the 35 States that have state meat inspection programs, and in the 28 States with State poultry inspection programs, there were 5,515 plants under inspection. These States collectively employ 4,144 inspection personnel.

Another 300 meat and poultry slaughter and processing plants receive Federal inspection under authority of the Talmadge-Aiken Act, which permits cross utilization of State and Federal employees. Presently, agreements with States authorize the interchange of employees in 4 States, and the cross-utilization of employees in 20 States.

Over \$32 million dollars in grants for meat and poultry inspection were provided to the States in 1975. In addition, the Federal system provided training for many State employees in basic inspection, laboratory techniques, program review, and compliance work. As an integral part of the total national residue program, residue monitoring programs have been implemented in the States. USDA field personnel continually work with their State counterparts in the maintenance of the remaining State meat and poultry inspection programs.

2. Hazardous Product Kept from Human Food Channels.

Special actions were taken in cooperation with other Federal, State, and local authorities to assure removal of hazardous products from human food channels. For example, compliance officers monitored the recall of three days' production (60,000 pounds) of canned hams which had been distributed in 30 States. Lack of proper refrigeration after the hams were shipped from the plant apparently caused the cans to swell and the hams to develop high bacteria counts. In several other recalls supervised by compliance and inspection personnel, manufacturers voluntarily removed suspected unfit product from the market place.

Efforts initiated by the compliance staff resulted in criminal prosecution and conviction of two firms for adding sulfites to meat food products, resulting in the products being unsafe for human consumption.

3. Denaturing Color Guide.

The compliance staff and representatives from the pet food industry cooperated to establish a color level guide for sufficient identification of inedible meat.

When adopted this guide will set a uniform national standard for use by Federal and State regulatory officials and industry to decide if product has been sufficiently denatured to preclude its use for human food. The minimum acceptable color will be established at a level that will assure adequate protection to the consumer but not put undue burden on the pet food industry in using this product.

4. Systematic Review of Inspection Effectiveness.

The effectiveness of the inspection program was evaluated through 2,499 on-site reviews of federally inspected plants under a systematic program of plant review and followup. Review results were reported to field managers for immediate action and to headquarters managers for longrange improvements.

5. Allied Industries.

In federally inspected States, a total of 46,153 reviews were conducted of the operations of the "allied industries," such as shippers, wholesalers, warehouses, and animal food manufacturers. Over 800 violations of the meat and poultry laws were reported. Almost 11 million pounds of product were detained in 799 detention actions. The detained product was either brought into compliance, voluntarily disposed of by the owner, or seized for disposition by a Federal court.

6. Inspection of Foreign Products.

Twelve veterinary officers, including one supervisor, were stationed in foreign assignments during FY 1975. These positions are located in Australia, New Zealand, Canada, Mexico, Costa Rica, Argentina, Denmark, Netherlands, West Germany and Austria. In addition, seven veterinary officers were based in Washington, D.C., and traveled to foreign assignments. The staff acquired an additional veterinary officer near the end of FY 1975. During FY 1975, 3,476 comprehensive reviews were conducted in foreign meat and poultry plants authorized to export product to the United States. About 1.3 billion pounds of meat products were imported. The number of eligible foreign plants in FY 1975 was 1,118.

Two veterinary officers and their families returned from overseas assignments; one transferred from the states to an overseas assignment. Four veterinary officers conducted a special review of meat plants in South America during the year 1975. Testing of imported meat continued at a level comparable to that applied to domestic meats.

7. Training.

The program training staff has completed the initial evaluation of supervisory training (Supervision of the Performance System), which was given to all MPI Field Operations' Supervisors. Findings indicate that the educational phase met the objective and that a large percent of supervisors are using the SPS approach. Other supervisors need feedback on where they are failing and need to be reinforced in using SPS principles.

The individual Performance Plan (IPP) format, which has been revised and expanded, is now used by each Quality Control Inspector to build his performance plan for his specific assignment. The IPP format has application to other inspectional areas and the Department is now exploring a format for a plant inspection plan and how it may aid the program in providing economical, effective inspection coverage.

The training materials development process, which has been implemented by the program training staff, has continued to grow. This process assures that we are preparing employees to perform as the program desires. Eight have been trained in this process and four more are going through the training. We have produced our first self-instructional material through this approach. Fourteen other projects are in various stages of development.

Cooperative efforts with various universities and their schools of veterinary medicine continue. Three lab sessions and lectures were conducted in FY 75.

Foreign nationals continued to be trained and/or supplied with training materials in FY 75.

The training of contract veterinarians for State inspection programs, the training of State inspectors, and the supplying of training materials to State programs were continued during FY 75.

During FY 1975, a total of 2,056 employees of Federal, State, University, and Foreign Governments were trained. Of these, 1,256 were trained at the three meat and poultry training centers. The remaining 800 were trained at field locations. A total of 1,523 Federal employees, 261 State employees, 5 Foreign veterinarians, and 267 university faculty and students were trained.

8. Safety.

A portable video tape machine was purchased to aid safety training and awareness. This machine was first used in the ten plants reporting the greatest number of injuries in calendar year 1973. The injuries in these 10 plants were reduced by 50% in 1974. 1975 figures for these plants are not available at this time.

9. Chemistry Activities.

The States of New York and Kentucky have been contracted to analyze 2300 economic samples per month for the MPI program. The utilization of these laboratories for the analysis of routine samples allows MPI chemists to direct their efforts toward the area of health hazards that might be present in meat or poultry products in the form of biological residues.

In continuing efforts to increase our capability in residue methodology, four additional analytical procedures have been validated and submitted to the National Residue Laboratory, Peoria, Illinois for the objective surveillance of the drugs Iprnidazole, Clopidol, Decoquinat, and Robenidine. The Eastern Laboratory, Athens, Georgia has been assigned the analytical procedure for Monensin, an antibiotic used to promote growth and better feed efficiency.

In addition, the Department has developed a screening method for the detection of five sulfonamides. This method has been submitted to the field laboratories for objective monitoring.

The FDA-MPI Joint Committee on Methodology for Drug Residues is chaired by the Chief of the Department's MPI chemistry staff. The objective of the Committee is to establish the protocol for developing and standardizing uniform methodology for drug residues that might appear in the nation's meat supply. The Committee is currently studying improved methodology for diethylstilbestrol (DES), tetracyclines, and the sulfonamides.

The new Midwestern Multidisciplinary Laboratory will be located in the Lincoln, Nebraska area. This laboratory will be staffed by consolidating two smaller chemistry laboratories with microbiology and pathology laboratories. The new Midwestern Multidisciplinary Laboratory will enable the Program to better utilize manpower and resources and to provide field personnel with greater analytical and diagnostic services.

10. Microbiological Activities.

The Department's microbiology staff is providing technical and laboratory support to the MPI program by investigating food borne diseases due to microbes and their toxins. These on-going technical and laboratory studies assist in remedying meat processing defects, resulting in further improvements to the wholesomeness of the meat supply distributed nationwide. During the past year, the microbiology staff has responded to program needs with fast, accurate, and numerous analyses associated with three different human food borne disease outbreaks. The outbreaks included botulism from canned stew, salmonellosis from cooked beef, and a staphylococcal enterotoxin from fermented salami. In each instance, the analytical results were important in administrative decisions to identify and recall each of the affected products in order to prevent further human illnesses. During the investigation of these outbreaks, the microbiology staff cooperated commendably with other MPI program staffs such as pathology, toxicology and epidemiology; other MPI personnel; and with outside regulatory authorities such as States, the United States Public Health Service, and the Food and Drug Administration.

Microbiology staff continued laboratory surveillance of meat and poultry tissues for antibiotic residues, potential health hazards. Several problem areas were recognized and are now under further investigation.

11. Nitrosamines.

Nitrosamines are produced by the interaction, under certain conditions, of nitrite with amines in meats. They are potential causes of cancer and, therefore, of grave concern to the Department and to the meat industry. The Secretary's Expert Panel on Nitrates, Nitrites and Nitrosamines, which was appointed late in 1973, made recommendations to the Secretary concerning the use of nitrate and nitrite in meat products. The Program followed through on these recommendations by publishing a proposal to amend the meat inspection regulations to correspond with the Panel's recommendations.

The proposal eliminates the use of nitrates in all products except dry-cured and fermented sausage products. It also reduces the permitted level of nitrites in most products, but allows the use of sufficient amounts to afford protection from botulism. Realizing that a unique problem exists with bacon, the industry is called upon to make a concerted effort to resolve within one year the problem of nitrosamine formation in fried bacon. The industry has already been able to substantially reduce the potential hazard of nitrosamines in this product.

12. Mechanically Deboned Meat.

The existing world food storage and escalating prices of protein foods have instigated research to reduce waste and utilize more efficiently the recovery of edible protein from animals. For some time, industry has been developing methods of recovering meat from discarded bones.

The Program has issued directives to permit the use of meat recovered from bones as a meat ingredient of processed meat products. This mechanically deboned meat must be handled under restricted conditions and comply with rigid nutritional standards. This is the first step in a series of developments aimed at providing additional protein material to consumers without any loss in protein quality or nutritional value.

13. Diethylstilbestrol (DES) Certifications.

Diethylstilbestrol (DES) is a hormonal feed additive used for promoting the growth of cattle. DES became a sensitive issue in U.S. meat exports to Canada because its use in livestock feed was banned by the Canadian Government.

As a means of continuing the meat export trade with Canada, a system of DES control based upon producers' certifications was worked out and put into effect. This assures that the meat exported to Canada is derived from livestock that were fed on rations free of DES.

14. Quality Assurance and Process Control Programs.

Approximately 325 quality control procedures were reviewed and found to be acceptable for use by the plant operators to assure that wholesome, unadulterated, properly labeled products are being introduced into trade channels. These procedures include the controls for the production of a relatively new product for domestic consumption, mechanically deboned beef or pork. Required approved quality control procedures for production of nutritionally labeled products were of utmost interest to processors of meat products.

15. Residue Program Activities.

APHIS is projecting 750 residue cases requiring regulatory action for calendar year 1975. This is slightly more than the 722 cases handled in 1974 but somewhat lower than the 859 cases handled in 1973. The total monetary value involved decreased considerably because there were no major condemnation actions. The major problem areas changed from pesticides to drugs. This was not due to a corresponding change in our basic program.

During 1975 there was one major problem area starting to develop with ipronidazole in turkeys. The turkey industry reacted by limiting their use of the drug; therefore, the actual industry problem was minimal. The losses from retained product were minimal, since it was learned through repeated analyses that the drug disappeared from the frozen bird with time in storage. An added safety factor was found in that the drug also disappears at normal cooking temperatures.

The Department conducted an intensive sampling program on calves for antibiotic residues throughout 1975. The net effect of this approach was to reduce the number of violations slightly with a major shift in type of violations from the tetracycline group to neomycin. There has also been a change in the unidentifiable inhibitors found.

The other major area of concern is the sulfonamide drugs. These have been a problem in swine during this past year and special attention will be given to resolving this problem in 1976.

The closer cooperation with the Food and Drug Administration is showing results which are not yet apparent at the producer level. Its investigations into causes of violative residues are clarifying problem areas, such as cross contamination at the feed mill and resulting in active programs by both FDA, State officials, and the feed industry to correct problems. There is also an increased awareness on the part of researchers and animal producers that control of drug and pesticide residues must be part of their normal programs.

Geographic Distribution of Obligations:

Meat and Poultry Inspection

	1975 <u>Actual</u>	1976 <u>Estimate</u>	1977 <u>Estimate</u>
Alabama	5,612,369	6,226,000	6,340,000
Alaska	172,744	192,000	195,000
Arizona	760,694	844,000	860,000
Arkansas	6,134,361	6,805,000	6,930,000
California	12,244,680	13,581,000	13,795,000
Colorado	2,869,984	3,184,000	4,035,000
Connecticut	1,141,303	1,266,000	1,864,000
Delaware	1,425,021	1,581,000	1,610,000
District of Columbia	10,614,202	11,773,000	11,930,000
Florida	3,112,316	3,452,000	3,516,000
Georgia	9,073,092	10,064,000	10,213,000
Hawaii	582,986	647,000	659,000
Idaho	1,003,584	1,113,000	1,133,000
Illinois	8,594,775	9,534,000	9,709,000
Indiana	3,748,634	4,158,000	4,235,000
Iowa	9,627,141	10,679,000	10,839,000
Kansas	4,401,648	4,888,000	4,978,000
Kentucky	2,142,853	2,377,000	2,421,000
Louisiana	2,394,683	2,656,000	2,705,000
Maine	1,225,221	1,359,000	1,384,000
Maryland	7,187,994	7,973,000	8,120,000

Meat and Poultry Inspection
Continued

	1975 <u>Actual</u>	1976 <u>Estimate</u>	1977 <u>Estimate</u>
Massachusetts	2,225,829	2,469,000	2,514,000
Michigan	3,773,968	4,186,000	4,701,000
Minnesota	7,050,212	7,820,000	7,964,000
Mississippi	4,214,475	4,675,000	4,761,000
Missouri	6,404,344	7,104,000	7,235,000
Montana	1,390,275	1,542,000	1,570,000
Nebraska	5,908,973	6,555,000	6,676,000
Nevada	229,240	254,000	259,000
New Hampshire	377,970	419,000	427,000
New Jersey	3,209,819	3,561,000	4,515,000
New Mexico	939,309	1,042,000	1,061,000
New York	8,106,451	8,992,000	13,424,000
North Carolina	5,942,002	6,591,000	6,712,000
North Dakota	829,793	920,000	937,000
Ohio	5,588,539	6,199,000	6,313,000
Oklahoma	2,007,332	2,227,000	2,268,000
Oregon	2,084,635	2,312,000	2,355,000
Pennsylvania	10,216,802	11,333,000	11,506,000
Rhode Island	473,194	525,000	535,000
South Carolina	1,625,980	1,804,000	1,837,000
South Dakota	1,551,579	1,721,000	1,753,000
Tennessee	3,597,450	3,991,000	5,169,000
Texas	12,215,620	13,549,000	13,763,000
Utah	953,760	1,058,000	1,077,000
Vermont	249,026	276,000	281,000
Virginia	4,294,246	4,763,000	4,851,000
Washington	2,347,288	2,604,000	2,652,000
West Virginia	755,865	838,000	853,000
Wisconsin	4,453,032	4,940,000	5,031,000
Wyoming	160,569	178,000	181,000
Puerto Rico	1,144,221	1,269,000	1,292,000
Virgin Islands	10,316	12,000	13,000
Guam	42,237	47,000	48,000
Foreign Countries:	<u>436,146</u>	<u>484,000</u>	<u>493,000</u>
Total	198,880,782	220,612,000	232,498,000

PLANT PROTECTION

Current activities:

The Department cooperates with State and local agencies, the Republic of Mexico, Canada, and other Western Hemisphere countries in order to protect our Nation's farm crops from insects, nematodes and diseases. Surveys are conducted to detect harmful pests and diseases. Efforts are focused on preventing interstate spread of harmful pests and diseases. The effects of the use of pesticides on the environment are closely checked.

Selected Examples of Recent Progress:

Boll Weevil--Texas High Plains

The boll weevil reproductive diapause control program on the Texas High Plains continues to prevent western spread to Arizona, California, New Mexico, and west Texas.

The excellent cooperative control program during 1974 resulted in low population levels of boll weevils coming out of hibernation in the spring of 1975. Some early season control was delayed to prevent interference with natural control of bollworm populations. Weather conditions east of the control zone caused some cotton crop failures and assisted in the development of unusually large boll weevil populations. The destruction of some of this unprofitable cotton contributed to extensive migrations to the west into the control zone and on to the Cap Rock.

Control was required on approximately 743,000 aggregate acres on the High Plains and the Big Bend area of Texas along the Texas-Mexico border. Evaluations indicate that boll weevil populations in the High Plains area and in the Big Bend area were suppressed to very low levels. The ultra-low volume malathion applications were reduced from 16 ounces per acre to 12 ounces per acre during the entire season. Excellent control was achieved at this level of application.

Citrus Blackfly

Program highlights in 1975 included continued treatment of infestations outside the generally infested area (the city of Brownsville, Texas, and its environs), release of 150,000 parasites, and development of a regulatory treatment for citrus nursery stock. This prevented establishment of this pest in any other citrus-producing area of the United States outside of Texas. The parasites have been detected outside of areas where they have been placed indicating a potential for future control of a self-sustaining basis. To expedite parasite introduction into the program, a facility has been constructed in Monterrey, Mexico. This will provide a vast increase in the number of parasites for field release in Texas and Mexico. Monterrey, Mexico, was chosen as the site for the rearing facility primarily because it would not be biologically sound to locate the rearing of the parasites which are grown on the citrus blackfly in an uninfested area or in areas of light or spotted infestations. Such an operation in Texas would endanger uninfested areas if the pest were to accidentally escape.

Giant African Snail

The infestation of the giant African snail is considered eradicated from the continental United States. Federal emergency regulations were cancelled effective April 13, 1975. These regulations were first imposed in 1969, when this pest was found in Florida, to prevent the pest from spreading until eradication was achieved. Eradication treatments began October 1, 1969, on 759 properties in Broward and Dade Counties.

Since the beginning of the program, eight major infestations comprising over 100 acres were discovered. No giant African snails have been found since April 13, 1973, and the last treatment was applied October 3, 1974.

General Surveys in areas previously regulated are continuing. These surveys are necessary to assure that eradication has been accomplished. Reports of suspect giant African snails continue which require verification. The snail is frequently intercepted at U.S. ports of entry and military installations. Infested commodities are treated to prevent reestablishment of the snail on the U.S. mainland.

Mediterranean Fruit Fly

The Mediterranean fruit fly is one of the most destructive and widespread pests of citrus and many other fruits. Some Mediterranean areas have had up to 100 percent infestation in stone fruits; Greece has had 50 percent loss in its citrus. Except for the infestation in Hawaii, the pest has been eradicated from the United States four times--three times in Florida and once in Texas.

Medfly was found again in the continental United States in Los Angeles County, California, on September 25, 1975. Trapping was immediately intensified. Bait sprays were applied in the core of the infested area, and soil drenches were applied under infested trees. An emergency exemption for use of chemical sprays and drenches was obtained from the Environmental Protection Agency.

Federal emergency quarantine regulations went into effect on October 24, 1975. The State of California and the county of Los Angeles have also taken regulatory actions.

The release of laboratory-reared sterile flies was initiated November 5, 1975. The Agricultural Research Service rearing facility in Hawaii is furnishing 20 to 25 million sterile flies per week for release in the Los Angeles area.

Oriental Fruit Fly

The Oriental fruit fly was found established for the first time on the United States mainland in September 1974, in San Diego, California. Immediately, intensive surveys, regulatory measures to prevent spread, and eradication procedures were initiated. The last fly was trapped in January 1975. With the revocation of the quarantine, the only action subsequently conducted was monitoring which was carried out under the supervision of the State of California. This insect was declared eradicated from the mainland of the United States on May 21, 1975.

Witchweed

Our concentrated methods development effort made available technology during the year to increase program effectiveness against witchweed from the United States. This will involve integration of several techniques including soil injections of ethylene gas, and application of herbicides as needed on corn and idle land. Methyl bromide will be used in some areas to kill seed in the soil. We are encouraged by the success of the newly developed technology which will be helpful in the program over the next several years.

Since beginning of the program, witchweed has been eradicated in four counties in South Carolina and five counties in North Carolina. These were spot infestations involving relatively small acreages. We are optimistic that we can continue this progress.

Climate-controlled studies in growth chambers show that witchweed can grow and reproduce anywhere in the United States where corn and sorghum are grown for grain. Heavy infestations can reduce corn yields nearly 100 percent.

Grasshopper Control

Outlook surveys during the fall of 1975, indicate grasshopper populations in 1976 could be the highest in several years, especially in Montana, Colorado, and Wyoming. Approximately 650,000 acres of rangeland were treated for grasshopper control during the summer of 1975. This relatively low acreage was indicated by a survey conducted the previous season. Control for the Mormon cricket was required on approximately 48,000 acres during 1975. This compares with 35,000 acres in 1974 and 11,000 acres treated in 1973. Early estimates show that we can expect a significant population increase in Mormon crickets for 1976, principally in Idaho, Nevada, Wyoming, Washington, and Colorado.

Gypsy Moth

Male gypsy moths were trapped in new counties for the first time in the following States: Florida--1; Pennsylvania--1; Ohio--2; Michigan--1; Wisconsin--3; Arkansas--1; New York--2; North Carolina--1; and Virginia--4. Additionally, moths were trapped in 55 counties in 15 States outside the generally infested areas that have a history of trap catches in previous years. The Arkansas trap catch, which consisted of two male moths in one trap, is the first recorded trapping of gypsy moths in that State. Approximately 73,000 traps were employed in 31 States in 1975 to detect the spread of the pest.

Parasite rearing facilities are operated in cooperation with the New Jersey and Maryland Departments of Agriculture. In 1975, the New Jersey facility shipped approximately 270,000 parasites for release in 11 States. The Maryland facility reared about 10,000 parasites for release in that State.

Infested sites that present a hazard of artificial spread of the gypsy moth to noninfested areas by movement of recreational vehicles, mobile homes, and military cargo received insecticide treatment.

In nine States, 108 sites were treated by air and 185 by ground equipment. This work involved almost 13,000 acres.

Imported Fire Ant

Continuous negotiations between the U.S. Department of Agriculture and the Environmental Protection Agency resulted in resumption of the control program under terms of a Memorandum of Understanding. The agreement dated October 24, 1975, provides for a conventional fall program and for large-scale testing of new bait formulation in the spring of 1976. The new bait formulation may result in a 50 percent reduction of the actual toxicant. The new bait will give USDA a more effective program because it will provide greater flexibility. If this new bait proves effective under actual field conditions and it meets EPA's environmental safety criteria, the Department would hope to eventually return to three treatments within a 2-year period and controlled application over coastal counties. Additionally, the Department has entered into a cooperative agreement with EPA and the Mississippi Department of Agriculture and Commerce to test alternative chemicals which have shown promise in initial testing against the imported fire ant.

Under terms of the agreement between the two Agencies, USDA resumed participating in the cooperative Federal-State program for the balance of the 1975 fall program, using the "4X" mirex bait formulation that has been approved since the early 1960's and subject to the present EPA environmental safeguards. Additionally, EPA will consider issuing an experimental permit for the new bait formulation, designated as "10:5", for the purpose of conducting more extensive field tests upon which to base criteria for regulating the type of aerial applications that might be allowed. Such tests will have to conform to the present restrictions against using "4X" bait over aquatic and heavily forested areas. Also, EPA will consider permanent registration of the "10:5" bait provided the experimental trials prove successful in destroying fire ants while also meeting EPA criteria for protecting the environment.

AGRICULTURAL QUARANTINE INSPECTION

Current activities:

An inspection program is conducted at ports of entry to prevent the entrance of insects, nematodes and diseases which are harmful to the plant life of this Nation. The Department also certifies plants and plant products for export.

Selected Examples of Recent Progress:

Training of Military Customs in the Far East

The Plant Protection and Quarantine Programs liaison officer to the U.S. Customs Service represented the U.S. Department of Agriculture on a team to train Military Customs Inspectors at U.S. military bases in the Far East. The training sessions were conducted in Guam, Thailand, Philippines, Korea, Japan, Okinawa, and Taiwan. This training strengthens the ability to eliminate prohibited material at origin and results in reducing pest problems at ports of entry. Military services' emphasis on pest-free cargo and baggage inspection at overseas installations results in reduced levels of inspection at U.S. ports of entry.

New Garbage Regulations Become Effective

Revised regulations to control garbage of foreign origin became effective September 8, 1975. These improved regulations define garbage and provide for improved control of the handling and disposition of food refuse and garbage arriving aboard carriers from foreign countries. Risks of introduction of plant pests and animal diseases via this material are considered high. A total of 51 commercial airports and 84 military installations have applied for and have been granted approval to handle and dispose of garbage arriving on international flights. Additionally, many maritime locations have been granted approval to handle and dispose of ships' garbage, thereby making it possible for the material to be offloaded at the captain's or agent's option rather than be held aboard to be dumped at sea.

New Procedures for Export Certification of Grapefruit to Japan

New procedures were developed making it possible to certify Florida grapefruit for export to Japan. Because Caribbean fruit fly was found infesting Florida grapefruit, the Japanese Government requires that all such fruit be treated and so certified before shipment to Japan. Procedures were also developed to allow fumigation in truck trailers. Fruit moves to port of export in the same trailer in which it is fumigated.

Review of Foreign Site Activities (Preclearance of Plant Material)

A study was completed in the Low Countries on the ongoing system for preclearance of bulbs and the one year trial project for preclearance of ferns, gloxinia, begonia, African violets, and peperomia.

Over the course of more than 25 years, pest risk on bulbs has been reduced to a negligible level. At the time the bulbs are presented for export, only organisms associated with quality-in-storage are encountered, and these are treated by hot water or chemically. The system reached its present high standards because of cooperation between Department employees and the exporting countries' plant protection services, bulb production boards, and their scientists.

The system for ferns and four other genera is under evaluation during a one year trial which started April 15, 1975. During the period between April 15 and August 1, 1975, exporters in the Netherlands geared up to shipping ferns at the rate of 100,000 per week. Pest and pathogen detection tests conducted in the United States on samples submitted by the foreign site unit officer have thus far been negative.

Permits Issued

A total of 1,108 permits under the Federal Plant Pest Act was issued during fiscal year 1975. The permits were issued primarily to scientists for entry and movement of cultures of plant pests or pathogens into the United States and across State lines for scientific or educational purposes. As a condition of granting the permit, the permittee must meet specified State and/or Federal safeguard requirements. The permit system, under this act, allows responsible scientists to conduct research in approved facilities to benefit U.S. agriculture.

New Procedures for Cut Flower Examination at Miami

With an average of 60,000 cartons of cut flowers entering at the port of Miami each month, the increase in inspectional workload became serious. New sampling procedures were developed to provide for a valid inspection of this large volume of a highly perishable commodity so that shipments could more quickly move through the port of entry to reach markets in good condition. One box of each cut flower variety is examined from each shipment. Further examination is based upon results of the initial inspection.

Revised Procedures on Phytosanitary Export Certification

Revised instruction will improve export inspection and certification procedures for agricultural products. Major emphasis is placed upon the reliability of our certifications to the foreign plant protection services and to maintaining the credibility of the U.S. Phytosanitary Certificate. These revisions also reinforced instructions given to State designees and domestic Department personnel who have only recently become involved in issuing phytosanitary certifications.

Geographic Distribution of Obligations:

Plant Protection

	1975 <u>Actual</u>	1976 <u>Estimate</u>	1977 <u>Estimate</u>
Alabama	801,713	768,500	959,500
Arizona	914,016	871,600	975,700
Arkansas	185,739	177,300	272,600
California	1,003,913	962,600	1,060,300
Colorado	80,632	75,500	77,600
Connecticut	145,129	136,900	154,900
Delaware	59,708	55,200	57,500
District of Columbia	445,086	423,100	382,500
Florida	976,652	933,900	1,034,100
Georgia	1,753,292	1,676,300	1,874,600
Hawaii	71,182	66,100	68,500
Idaho	152,334	144,800	145,700
Illinois	224,355	212,800	267,000
Indiana	148,629	141,300	143,100
Iowa	192,641	182,400	185,400
Kansas	42,105	38,300	40,000
Kentucky	69,876	64,800	67,300
Louisiana	1,324,571	1,311,500	1,462,900
Maine	114,496	107,600	110,200
Maryland	4,179,612	4,147,900	3,976,900
Massachusetts	166,497	158,400	210,300
Michigan	645,539	640,100	671,300
Minnesota	444,352	380,500	427,800
Mississippi	2,163,848	2,146,000	2,086,900
Missouri	88,255	84,500	109,900
Montana	87,291	83,600	84,000
Nebraska	118,596	112,500	114,200
Nevada	44,107	42,200	42,500
New Hampshire	79,820	76,400	76,900
New Jersey	289,716	274,300	293,000
New Mexico	163,827	156,800	157,700
New York	1,035,946	991,700	1,091,200
North Carolina	2,388,151	2,368,800	2,486,900
North Dakota	32,907	31,500	31,700
Ohio	248,663	236,000	264,300
Oklahoma	180,735	172,000	174,000
Oregon	46,816	44,800	45,100
Pennsylvania	534,524	510,700	539,500
Rhode Island	55,375	53,000	53,300
South Carolina	942,557	901,300	953,300
South Dakota	16,172	15,500	15,600
Tennessee	276,031	264,500	278,900
Texas	3,169,319	3,033,800	3,238,900
Utah	46,149	44,200	44,400
Vermont	66,343	63,500	63,800
Virginia	389,317	372,700	421,700
Washington	168,705	160,400	162,400
West Virginia	121,734	115,500	142,200
Wisconsin	98,136	93,900	105,500
Wyoming	87,614	83,900	130,200
Puerto Rico	8,936	8,500	8,600
Mexico	878,482	839,100	870,700
Total	27,970,141	27,059,000	28,713,000

Agricultural Quarantine Inspection

	1975	1976	1977
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>
Alabama	200,022	208,300	211,400
Alaska	129,285	134,200	136,200
Arizona	572,774	599,300	608,400
California	1,847,047	1,934,300	1,997,800
Colorado	32,858	32,400	32,900
Delaware	114,929	120,400	122,100
District of Columbia	463,653	485,900	493,300
Florida	1,994,951	2,089,400	2,121,100
Georgia	146,218	152,700	155,000
Hawaii	2,030,748	2,126,400	2,158,700
Illinois	284,044	296,200	300,700
Louisiana	680,594	712,700	723,500
Maine	82,123	85,600	86,900
Maryland	2,954,194	3,095,900	3,106,800
Massachusetts	382,176	400,300	406,400
Michigan	194,802	203,600	206,700
Minnesota	227,341	236,000	239,600
New Jersey	447,803	467,400	474,500
New York	2,859,036	2,994,000	3,039,500
North Carolina	86,520	90,200	91,600
Ohio	99,513	104,100	105,700
Oregon	157,674	164,300	166,800
Pennsylvania	328,678	342,400	347,600
Rhode Island	54,327	55,500	56,400
South Carolina	241,660	252,200	256,000
Tennessee	21,509	20,800	21,100
Texas	3,398,228	3,560,900	3,683,600
Utah	2,023	37,000	37,600
Virginia	453,385	474,300	481,500
Washington	304,766	319,300	324,200
Wisconsin	53,438	55,500	56,400
Puerto Rico	852,747	893,100	906,700
Virgin Islands	131,063	136,500	138,600
Mexico	74,249	76,400	77,500
Foreign Countries	173,654	180,500	183,200
Total	<u>22,078,032</u>	<u>23,138,000</u>	<u>23,556,000</u>

ANIMAL DISEASE AND PEST CONTROL

Current activities: Nationwide programs are conducted to control and eradicate animal diseases. State and local agencies cooperate with the Department in protecting the livestock and poultry food-producing industries. Laws and regulations are administered to prevent the spread of diseases through interstate shipments of livestock and poultry and to insure the welfare and humane care of transported livestock. The welfare of certain laboratory animals, pets, exhibition animals and horses is protected. Miscellaneous disease conditions are diagnosed, examined, and controlled, as required.

An inspection and quarantine program is carried out to prevent communicable animal diseases of foreign origin from gaining entrance to this country. Cooperative Agreements, aimed at preventing, controlling and eradicating any communicable disease of animals which threaten the livestock, poultry and related industries of the United States are being entered into with many Western Hemisphere nations.

Selected Examples of Recent Progress:

Animal Health

1. Animal Import Centers

Public Law 88-592, approved September 12, 1964, authorized the sale of the Animal Quarantine Station at Clifton, New Jersey, to the City of Clifton, and application of the proceeds of sale to the planning and construction costs of a new station in the New York-New Jersey port and airport area. The Department, on September 5, 1975, signed a 40 year lease agreement with the Metropolitan Transportation Authority (MTA) of the State of New York for 75 acres located at Stewart Airport, Newburgh, New York. Criteria for design and construction have been developed. Architect-engineering firms have been solicited to do the design and planning. Negotiations with such a firm for design are under way at the present time.

Stewart Airport is comprised of approximately 11,500 acres. The facility will be located near the existing runway. MTA plans to extend the existing 8,000 foot runway an additional 4,000 feet. This will enable a ramp to be extended to the facility for the offloading of animals into the facility.

In order to meet the demands of the livestock industry, zoological gardens, and fanciers of birds, poultry, horses, and other animals, the facility is being designed to handle 1,800 cattle, 1,000 horses, 300 to 400 zoological specimens, and 3,000 to 4,000 poultry on a yearly basis. This will triple the present capacity at Clifton. Space for future development of facilities to handle commercial lots of birds is being planned.

2. Brucellosis Eradication.

Brucellosis surveillance activities, under the Market Cattle Identification Program, posted a sharp increase for FY 1975. There were 12.16 million samples tested from markets and slaughter establishments in FY 1975 as compared to 8.99 million in FY 1974. This represents an increase of 35 percent.

Total cattle tested was also up sharply in FY 1975 to 18.6 million as compared to 14.6 million in FY 1974. This represents an increase of 27 percent.

The increased surveillance and on-farm testing has increased the rate at which new infection has been found. There were 16,498 infected herds found in FY 1975 as compared to 14,200 in FY 1974--an increase of 23 percent. There were 169,800 reactors found on farms in FY 1975 as compared to 133,000 in FY 1974. This represents an increase of 25 percent.

Industry support was gained for an all-out fight on the disease in 11 southern states where 90 percent of all infected herds are located. Nationwide, less than 1 percent of all cattle are infected.

Swine brucellosis surveillance by the Market Swine Testing (MST) program continued to increase during FY 1975. The number of animals tested increased to 2,045,255 during the year compared with 1,814,214 during FY 1974. This represents an increase of 13 percent.

The number of Validated Brucellosis-Free counties increased 40 percent during FY 1975, from 496 to 694, and four States--Colorado, Maine, Minnesota, and Washington--achieved validated status during the year.

3. Emergency Programs

The five Regional Emergency Animal Disease Eradication Organizations (READEO's) were fully staffed and maintained to rapidly respond to emergency disease outbreaks. The Northern and South Central READEO's were activated to combat outbreaks of exotic Newcastle disease at Bay Shore, Long Island, New York, and Pharr, Texas, respectively. These outbreaks were rapidly and effectively eliminated. Three test exercises were conducted by the North Central, Northern, and Western READEO's.

In addition, a formal request by the Secretary of Agriculture to the Secretary of Defense for extending contingency planning and support of Regional Emergency Animal Disease Eradication Organization activities to include Puerto Rico, Hawaii, Alaska, Panama Canal Zone and the Trust Territories of the Pacific Islands was approved.

A list of disease specialists who will be available to serve as advisors and consultants for the five READEO's was established.

During Fiscal Year 1975, foreign animal disease surveillance activities resulted in 52 investigations. All were negative for foot-and-mouth disease and other exotic diseases. One case of a New Jersey strain of vesicular stomatitis was confirmed in bovine in a herd in Columbus County, North Carolina.

Two foreign animal disease training courses were conducted with 31 veterinarians receiving training. The development of 10 foreign animal disease films was initiated in cooperation with the Plum Island Animal Disease Center. These films are directed primarily toward professional audiences but will be useful in increasing public awareness of foreign animal diseases.

4. Exotic Newcastle Disease

The ongoing national surveillance program for exotic Newcastle disease was responsible for the rapid detection of the two Newcastle disease outbreaks that occurred this year, thus permitting each outbreak to be eliminated without spread. The outbreaks occurred in Pharr, Texas, and Bay Shore, New York.

Good lines of communications with poultry and bird industries and practicing veterinarians, along with quick field investigation with rapid diagnosis have detected and prevented new introductions of exotic Newcastle disease from spreading to other poultry or bird populations.

This permitted a State hold order to be placed immediately to prevent any movement from the premises until a diagnosis was made and depopulation could be accomplished. Several investigations have been made that proved not to be Newcastle disease. Frequently, however, Veterinary Services veterinarians assisted in arriving at the proper diagnosis, thereby providing a much appreciated service to the flock owner.

Four shipments of proposed imported biological materials were tested at Plum Island Animal Disease Center for possible extraneous viruses upon request of Veterinary Services. One shipment, of liver tissue and sera from Japanese quail in Mexico, was actually found to contain velogenic viscerotropic Newcastle disease virus. If the virus had not been detected, and the importation stopped, it is possible another serious outbreak of VVND could have occurred in the United States.

5. Hog Cholera Eradication

All 50 States and Puerto Rico were designated as "hog cholera free" by the USDA in FY 1975. This status was attained late in 1974. No hog cholera was disclosed in FY 1975. However, the 14-month hog cholera free period was ended with the confirmation of hog cholera in Texas on July 4, 1975. A second related case was confirmed in Texas on July 18, 1975.

No swine were destroyed because of hog cholera in FY 1975. The cases in Texas early in FY 1976 involved the depopulation of 3,266 swine amounting to \$355,248 in Federal indemnity.

Great Britain had removed a 20-year restriction imposed on importation of US pork because of the existence of hog cholera. This was based on no confirmed cases in the continental United States for 12 months. However, following the Texas outbreak, the Great Britain market was lost because the US could no longer comply with the requirement for certification that hog cholera had not been confirmed in the continental United States for a 12-month period.

Surveillance by the established methods of reporting the suspicion of hog cholera, routine screening of swine tissues submitted to diagnostic laboratories for the presence of hog cholera virus, market inspection, and inspections of garbage feeding establishments continues.

6. Horse Protection

On December 9, 1970, Public Law 91-540, the Horse Protection Act, was signed into law and thereafter prohibited the movement in interstate commerce and/or the showing or exhibition of horses which are sore.

Enforcement efforts have been recently enhanced by the purchase of an additional thermovision instrument. Previously, industry could be certain that APHIS was incapable of covering more than one show with thermovision on any given show night. The prosecution of alleged violators through administrative procedures has continued at a steady pace during the past year. To date, 52 cases have been administratively settled by the payment of fines, the largest fine being \$2,000. As well, 14 cases have resulted in successful prosecution of criminals.

The Horse Protection Regulations have been revised. These regulations should benefit APHIS as well as industry. APHIS will benefit by being able to place added emphasis on detecting the sore horse rather than to spend time determining the legality of training devices. Industry will benefit by being able to utilize a greater variety of training devices. In addition, a new form has been developed and is being utilized to record the documentation of alleged violations. This form allows a nationally uniform preparation of cases and requires documentation of data that Office of the General Counsel feels will increase our chances for successful prosecution.

The Tennessee Walking Horse industry continues to make progress in its efforts to enforce the Act through self-regulation. The "scar rule" initiated on 2 year olds in 1974 was extended to 3 year olds in 1975, and will include 4 year olds in 1976. Consequently, the pastern area of the majority of 2 and 3 year olds (observed and inspected by APHIS personnel) are clean, covered with hair and free of visible callouses. The improvement in the appearance of the pastern area of all horses is strikingly evident and the image presented by horses in the show ring has also greatly improved. Out of approximately 2,000 horses entered in the National Tennessee Walking Horse Celebration, less than a dozen horses presented a bad image. Show management in general is doing a commendable job in eliminating the sore and/or bad image horse from competition.

7. Import-Export Inspection

A total of 1,058 head of cattle were imported through the USDA operated quarantine facilities located at New York, New York, Miami, Florida, and Honolulu, Hawaii, as compared to 564 head for FY 1974. A total of 2,066 equines were imported through the above named facilities as compared to 1,344 equines for FY 1974. One hundred zoological ruminants were imported through Clifton Animal Import Center in FY 1975, as compared to 142 zoological ruminants in FY 1974.

A total of 23 privately-owned bird quarantine facilities have been approved by USDA to date. Outbreaks of Newcastle disease were detected in 19 lots of birds during FY 1975. The shipments were from the following countries: Nigeria, Japan, Bolivia, India, South Africa, Taiwan, Mexico, Peru, Nicaragua, Holland, Belgium, Senegal, Paraguay, Honduras, and Malaysia. Quarantine measures have not allowed this disease to escape from these quarantine facilities.

There were two projects in operation for cattle to be imported through a third country. The project involved the importation of cattle from a country free of foot-and-mouth disease which originated in a country declared to be infected with foot-and-mouth disease by USDA. The shipments were made from France to Japan and then to the United States.

Cattle imported into the United States through third countries are imported only under severe restrictions which require the presence of a U.S. veterinary observer in the country of origin while the cattle are on the premises of origin, while the required tests are conducted and herd history records are checked, and during embarkation quarantine. The U.S. observer's presence is also required while the required tests are conducted and while the animals are in the quarantine station of the third country. Tests for foot-and-mouth disease, tuberculosis, leptospirosis, leukosis, and brucellosis with negative results are required both in the country of origin and the third country.

One semen importation project from West Germany was started in May 1974 and concluded in October 1974. In May 1975 another semen import project for the same importer was started in West Germany and was concluded in October 1975. The importer has indicated he does not wish to initiate another semen import from West Germany in the spring of 1976.

The first importation of bovine semen from Great Britain entered in June 1975. This semen was collected from bulls imported under Britain's maximum security import program from a foot-and-mouth disease infected country of Europe. The donor bulls were certified by the National Veterinary Service of Great Britain to be free of any infectious or contagious disease or exposure thereto and that they had met the specific health requirements of this Department for importation of the semen into the U.S.

8. Poultry Diseases

Between May 6 and June 25, 1974, there were 102 confirmed and suspected human cases of sickness and one death from ornithosis in plant employees and poultry inspectors in three States attributed to turkey flocks originating in Texas. Early in July 1974, a cooperative program was started in Texas to detect flocks infected with ornithosis before they were presented for slaughter. During an eight week period 7 flocks were classified as positive and were treated before going to slaughter. No additional human cases were reported after the program was initiated.

Alarmed by the appearance of 5 cases of ornithosis in turkeys and a Texas veterinary diagnostician becoming ill from acute ornithosis in early April 1975, a determination was made to reestablish a Texas turkey flock program similar to that in the summer of 1974 to avoid a repetition of the human involvement at turkey slaughter plants. Beginning May 26, 1975, all Texas turkey flocks, before going to slaughter, were required to be certified that they have been inspected, blood tested, and are not infected with ornithosis. Approximately 10 to 14 days before a flock is scheduled for slaughter it is inspected by a federal or state employed veterinarian and at the same time blood samples are collected for laboratory testing. If the flock is not showing illness and the blood samples are negative for ornithosis, a certificate is issued giving the flock a clean bill of health to accompany it to slaughter.

In the event a flock is determined to be positive serologically or by isolation of the agent it is quarantined by the Texas Animal Health Commission and treated with a broad spectrum antibiotic for 21 days under veterinary supervision and on reinspection it is free of the disease a certificate is issued so stating allowing the flock to move to slaughter.

As of November 28, 1975, 567 flocks containing 6.3 million birds have been certified eligible for slaughter. Of these, 18 flocks were found serologically positive and the ornithosis agent was recovered from four. No human ornithosis has been reported in turkey slaughter plant employees since the program began on May 26, 1975, to date.

9. Screwworm

In cooperation with the Commonwealth Governments of Puerto Rico and the Virgin Islands, screwworms have been eradicated from these territories. The U.S. Air Force and Air Force Reserve provided an important contribution for the successful eradication. Plans are being formulated for handling any future screwworm outbreaks in these areas on an emergency basis to prevent them from becoming reestablished.

In the Joint U.S.-Mexico Eradication Program, there are currently 150 or more livestock inspectors working south of the present barrier zone along the U.S.-Mexican border. The information in reports from these inspectors will form the basis for our screwworm case detection system. This information will assist in the planning of strategy for program operations and sterile fly releases. These inspectors also form a key function in the grass roots information program for the joint effort.

The sterile fly production plant, located at Tuxtla Gutierrez, Chiapas, Mexico, is nearing completion. Progress to date has been accomplished in spite of unexpected delays due to labor strikes and earthquakes. Recent earthquakes demolished approximately 50% of a nearby town where a number of the construction laborers at the plant live. The plant was specifically designed to withstand earthquakes and, as a result, was not damaged. It is presently expected that sterile fly production will begin in the summer of 1976.

The present sterile fly barrier zone continues to operate in spite of an increased migration of screwworms from Mexico. Favorable weather for screwworms, insufficient ranch labor to treat screwworm cases, and a significant increase in the livestock population in southern Texas have measurably increased the number of screwworm cases. Even under these adverse conditions, the program continues to have strong support from the livestock industry. There has been a tremendous increase in populations of the Gulf Coast ear tick, (*Amblyomma maculatum*), causing wounds in the cattle in the area. This tick increase, while not directly associated with screwworms, causes many wounds that are subject to screwworm infestations. The Cooperative Extension Service and Agricultural Research Service have made recommendations for tick control.

10. Tuberculosis Eradication

Of the 47 herds found to be infected with bovine tuberculosis in fiscal year 1975, 29 (62 percent) were completely depopulated, thereby eliminating possible reservoirs of infection. This is the highest percentage of depopulations accomplished in any one year period. Serious outbreaks of bovine tuberculosis in Georgia and Illinois were encountered during the year. Each of the outbreaks was successfully handled, with 10 infected herds disclosed in Georgia and 10 in Illinois. A 25 percent increase in the numbers of laboratory submissions of suspected tubercular tissues from regular kill slaughter cattle in fiscal year 1975 is a very

good indication that the tuberculosis slaughter surveillance program is gaining increased momentum. Tuberculosis indemnity regulations were revised to permit the payment of Federal indemnity on grade bulls and steers, certain classes of exposed cattle, and the Federal payment of one-half the cost of transportation and disposal of tuberculin reactors and tuberculosis exposed cattle. The result is a lessening of the financial impact on the individual livestock owner of having a tuberculous herd.

Veterinary Biologics

Current Activities: Under the Virus-Serum-Toxin Act, efforts are directed at preventing the production and inter-state distribution of worthless or harmful veterinary biologics.

Selected Examples of Recent Progress

1. Regulatory Operations

There were 41 domestic producers and two importers allowed to market veterinary biologics under license at the close of FY 1975. These licensees are required to test each serial lot of product produced by stipulated methods. Check testing is also carried out in the Departmental Laboratory in Ames, Iowa. Samples from 6,436 serials were submitted. Fifty-eight percent of these were tested for one or more characteristic. Overall in FY 1975, licensees declared 7.2 percent of the serial lots they tested unsatisfactory on average. However, 8 of the 41 licensees found no unsatisfactory serials, while 1 licensee found as high as 31.1% of their serials unsatisfactory.

During FY 1975, 22 indepth, 20 followup, and 20 special inspections of licensed establishments were made. The Field force primarily responsible for inspection was increased by the addition of a fourth Biologics Specialist, a veterinarian trainee, and three Biologics Investigators. A detailed study of sampling needs was done and reduction in cost effected in several States.

2. Improved Test Methods and Laboratory Procedures

Projects for development or improvement of test methods to assure increased product quality resulted in seven new Standard Requirements and substantial progress on four others. Thirteen existing Standard Requirements were revised and improved. One example was the development of a completely new potency test for Western Encephalomyelitis Vaccine. Another example was the improvement on the method of testing Leptospira Bacterins. It was found that different routes and sites of vaccination alter the degree of immune response. A further example was the development of two new conjugates that can be used to detect Equine Adenovirus and vesicular stomatitis viruses in primary cells. Both of these agents may result in the contamination of vaccines.

In addition, 17 new references or reagents were prepared and four others are in process. These materials are used by the Department in the testing of biologics and are also made available to the industry. Six cell lines and nine stock cultures used by licensees in the production of their products were evaluated by the laboratory.

3. Licensing Activities

During FY 1975, the number of licensed establishments declined slightly from 43 to 41. One new establishment license was issued and there were 21 changes in existing establishment licenses. The 41 licensees and 2 permittees manufacture and distribute 678 products. Product licenses and permits covered 249 generic products. A total of 14.3 billion doses were produced by the industry. The products prevent, detect, or treat 79 animal diseases. Fifty-four product licenses were issued to licensees that had not previously had licenses for these products.

New Standard Requirements using the Master Seed Virus concept were published for six products. Standard Requirements for four other products were presented for comment in the Federal Register.

Geographic Distribution of Obligations:

Animal Health

	1975 <u>Actual</u>	1976 <u>Estimate</u>	1977 <u>Estimate</u>
Alabama	1,463,203	1,483,500	1,714,500
Alaska	71,488	72,500	83,800
Arizona	575,973	584,000	674,900
Arkansas	1,413,041	1,432,700	1,655,800
California	1,269,041	1,286,700	1,487,000
Colorado	713,772	723,700	836,400
Connecticut	105,456	106,900	123,500
Delaware	28,543	28,900	33,400
District of Columbia	1,377,904	1,397,100	1,614,600
Florida	1,991,808	2,441,800	2,756,100
Georgia	1,783,874	1,808,700	2,090,300
Hawaii	180,008	182,500	210,900
Idaho	776,690	787,500	910,100
Illinois	1,004,639	1,018,600	1,177,200
Indiana	711,324	721,200	833,500
Iowa	4,031,673	4,942,000	5,578,800
Kansas	963,115	976,500	1,128,500
Kentucky	1,149,741	1,165,700	1,347,200
Louisiana	1,850,866	1,876,600	2,168,800
Maine	215,790	218,800	252,900
Maryland	8,104,959	8,310,700	10,530,800
Massachusetts	286,364	290,300	335,500
Michigan	573,458	581,400	671,900
Minnesota	1,301,619	1,319,700	1,525,200
Mississippi	2,676,788	3,281,500	3,704,200
Missouri	1,184,173	1,200,600	1,387,500
Montana	446,370	452,600	523,100
Nebraska	725,531	735,600	850,100
Nevada	247,126	250,600	289,600
New Hampshire	112,453	114,000	131,700
New Jersey	181,175	183,700	212,300
New Mexico	506,953	514,000	594,000
New York	808,355	819,600	947,200
North Carolina	577,370	585,400	676,500
North Dakota	347,533	352,400	407,300

Animal Health--Cont'd

	1975 <u>Actual</u>	1976 <u>Estimate</u>	1977 <u>Estimate</u>
Ohio	552,448	560,100	647,300
Oklahoma	2,457,761	3,012,900	3,401,000
Oregon	283,668	287,600	332,400
Pennsylvania	449,176	455,400	526,300
Rhode Island	76,358	77,400	89,400
South Carolina	449,058	455,300	526,200
South Dakota	549,865	557,500	644,300
Tennessee	2,137,788	2,620,700	2,958,200
Texas	18,307,281	22,446,400	25,332,800
Utah	363,135	368,200	425,500
Vermont	377,109	382,300	441,800
Virginia	503,361	510,400	589,900
Washington	362,868	367,900	425,200
West Virginia	303,795	308,000	356,000
Wisconsin	1,040,464	1,054,900	1,219,200
Wyoming	343,332	348,100	402,300
Puerto Rico	1,342,693	1,361,400	1,573,400
Mexico	9,257,315	9,385,900	10,847,200
Foreign Countries	<u>2,248,367</u>	<u>2,276,600</u>	<u>2,634,500</u>
Total <u>a/</u>	81,164,018	89,085,000	102,838,000

Veterinary Biologics

	1975 <u>Actual</u>	1976 <u>Estimate</u>	1977 <u>Estimate</u>
Alabama	308	300	300
California	8,436	8,900	9,100
Colorado	24,757	26,100	26,700
Connecticut	571	600	600
Delaware	3,711	3,900	4,000
District of Columbia	73,331	77,200	79,300
Georgia	688	700	700
Illinois	4,237	4,500	4,600
Indiana	79,608	83,800	85,700
Iowa	3,543,450	3,732,100	3,818,200
Kansas	11,821	12,400	12,700
Maine	1,519	1,600	1,600
Maryland	693,898	730,800	747,700
Minnesota	44,200	46,600	47,700
Missouri	7,334	7,700	7,900
Nebraska	112,532	118,500	121,200
New Jersey	8,337	8,800	9,000
New York	8,643	9,100	9,300
Oklahoma	39,472	41,600	42,600
Oregon	791	800	800
Pennsylvania	5,145	5,400	5,500
Texas	10,957	11,500	11,800
Wisconsin	24,732	26,300	26,600
Mexico	<u>65,363</u>	<u>68,800</u>	<u>70,400</u>
Total	4,773,841	5,028,000	5,144,000

a/ Does not include repayment to CCC in FY 1975 of \$62,900,000, \$2,550,000 in FY 1976 and \$833,000 in FY 1977.

CONSTRUCTION OF FACILITIES

1. Veterinary Biologics Laboratory - During FY 1974, 153 acres of land adjacent to and south of the present National Animal Disease Center, Ames, Iowa, were acquired by the City of Ames and deeded to the Federal Government at no cost for the purpose of constructing a new Veterinary Biologics Laboratory. This will eventually house biologics testing conducted at separate facilities in Ames. On June 27, 1974, the architectural firm of Brooks, Borg, and Skiles was awarded a design contract. Final working drawings and specifications will be completed in January, 1976. Invitations for bid on the construction contract will be advertised in March 1976. Construction is scheduled to start in June of 1976 with a projected completion date of June, 1978.
2. Fleming Key Import Center - Public Law 91-239, approved May 6, 1970, authorized the Secretary of Agriculture to establish and maintain an international animal quarantine station on an island within the territory of the United States. A Use Agreement with the Department of the Navy was signed January 1, 1972, for use of a portion of Fleming Key, Florida, as a site for the construction of the station. Three hundred thousand dollars was appropriated in 1973 for planning and design of the facility. The firm of Henningson, Durham, and Richardson, Inc. was awarded an architect/engineering contract on August 16, 1974. It is expected that invitations for bid on the construction contract will be advertised in April or May of 1976 with construction beginning in the fall of 1976. Construction will require two to two and one-half years.

CONTINGENCY FUND

The releases from the Contingency Fund for control of pests and other emergency outbreaks of insects, plant diseases, and animal diseases are shown below. During FY 1975 \$1 million was reserved for plant and related insect pests. In FY 1976 \$1 million is reserved for plant and related insect pests and an additional \$1 million is reserved for animal diseases and pests.

	Obligations (in thousands)	
	FY 1975	FY 1976
<u>Plant disease and pest control:</u>		
Golden nematode.....	200	- -
Orange spiny whitefly.....	50	- -
Mediterranean fruit fly.....	- -	200
Oat cyst nematode.....	35	25
Oriental fruit fly.....	450	25
Range caterpillar.....	- -	40
Total, Plant disease and pest control.....	735	290
<u>Animal disease and pest control:</u>		
Cattle fever tick.....	335	- -
Ornithosis.....	83	140
Total, animal disease and pest control.....	418	140
Total obligations or estimate.....	1,153	430
Unobligated balances.....	347	2,070
Total, available, Contingency Fund...	<u>1,500</u>	<u>2,500</u>

(b) Animal Quarantine Station

PROJECT STATEMENT

Project	1975	1976 (estimated)	1977 (estimated)
Construction of Animal Quarantine Station.....	--	\$194,060	\$326,600
Unobligated balance, start of year...	-\$94,060	-94,060	--
Unobligated balance, end of year.....	94,060	--	--
Total available or estimate.....	--	100,000	326,600

STATUS OF PROGRAM

Public Law 88-592, approved September 12, 1964, authorized the sale of the Animal Quarantine Station, at Clifton, New Jersey, to the City of Clifton and application of the proceeds of sale to the planning and construction costs of a new station in the New York-New Jersey port and airport area. A sales contract between the Department and the City of Clifton was executed at the appraised value of \$527 thousand. Of that amount, \$100 thousand was paid to the Department upon execution of the contract. An additional \$100 thousand will be paid to the Department upon publication of bids for construction of the new quarantine station. In 1970, an additional \$1.5 million was appropriated for the construction of the new quarantine station.

A total of \$6 thousand has been spent by the Department on surveys and related costs associated with obtaining a new location. The Department has recently found an acceptable site at Stewart Airport, Newburgh, New York and the lease was signed September 5, 1975. The architect/engineering firm of Haines, Lundberg, and Waehler has been selected to perform designing and planning functions.

(c) Miscellaneous Trust Funds

PROJECT STATEMENT

	1975	1976	Increase or	1977
		(estimate)	Decrease	(estimate)
1. Expenses and Refunds, inspection, certification and quarantine of animal products.....	378,589	456,000	+ 2,000	458,000
2. Expenses, feed and attendants for animals in quarantine . .	617,346	796,000	+ 4,000	800,000
3. Miscellaneous contributed funds	896,098	1,002,000	+ 5,000	1,007,000
Total obligations	1,892,033	2,254,000	+ 11,000	2,265,000
Unobligated balance available, start of year.	- 984,643	- 712,541	- 367,000	-1,079,541
Unobligated balance available end of year.	712,541	1,079,541	+367,000	1,446,541
Total available or estimate	1,619,931	2,621,000	+ 11,000	2,632,000
Breakdown by project:				
Meat and poultry inspection . .	538,691	453,000	+ 2,000	455,000
Plant disease and pest control ..	229,428	563,000	+ 3,000	566,000
Animal disease and pest control .	851,812	1,605,000	+ 6,000	1,611,000

STATUS OF PROGRAM

Expenses and Refunds, Inspection, Certification, and Quarantine of Animal Products

This trust fund account provides for (a) inspection and certification of animal foods and inedible agricultural products in interstate and foreign commerce, (b) identification and marking of divided portions of meat, meat by-products, and meat food products, and meat food products previously federally inspected and so marked in order that divided portions will bear Federal marks; and (c) examination of meat and meat food products in federally inspected meat packing plants for compliance with contract specifications. These services are of a voluntary nature. They are performed on the basis of requests from organizations or individuals requesting the service and fees are charged for the service.

Expenses, Feed, and Attendants for Animals in Quarantine

The Secretary of Agriculture has been authorized to quarantine animals and poultry at ports designated for such purposes. It is required that all cattle, sheep, goats, other ruminants, swine, poultry and in some cases equine stock, offered for entry into the United States from other countries be held in quarantine at the first port of arrival for veterinary inspection in order to determine their freedom from disease.

A schedule of fees is maintained for the care, feed and handling of the animals or poultry while in quarantine. Under present law, the Agency does not charge for the inspection service.

The Department operates three Government owned quarantine facilities, Clifton Animal Import Center, Clifton, New Jersey, for the port of New York, Miami Animal Import Center, Miami, Florida and Honolulu Animal Import Center, Honolulu, Hawaii.

Miscellaneous Contributed Funds, APHIS

This trust fund account was established to provide an account for the deposit of funds from non-federal sources made in payment of services provided by APHIS under cooperative agreements. Each cooperative agreement provides for specific payment of funds in consideration of work to be performed or services rendered. The use of a cooperative agreement is limited to those projects where there is genuine mutuality of operations and objectives, although there may be a difference in the scope of interest. Agreements may be entered into with States, local organizations, and individuals for plant and animal quarantine inspection, and cooperative plant and animal disease and pest control activities.

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PASSENGER MOTOR VEHICLES

The 1977 Budget Estimates propose acquisition of three additional sedans, two ambulances and replacement of 169 of the present 667 passenger motor vehicles. All vehicles are being fully utilized and those scheduled for replacement will either be over six years old or have 60,000 miles on them. The three sedans would be used for the boll weevil trial eradication program that will be initiated in Fiscal Year 1977.

The addition of two ambulances is requested in 1977 for use by the US-Mexico Screwworm Eradication Commission. They will be used to transport emergency cases to the nearest medical center located approximately 15 kilometers away. These ambulances will be procured from surplus vehicles held by GSA.

Approximately 96 percent of the vehicles owned by the Animal and Plant Health Inspection Service are used in daily farm-to-farm travel for the control and eradication of tuberculosis, brucellosis, screwworms, sheep scabies, cattle tick fever, hog cholera, and various plant pest control programs. About four percent of the vehicles are used for travel related to animal and plant quarantine work. Frequently, they are operated over rugged roads and terrain and under adverse weather conditions. Maintaining these vehicles in safe, dependable operating condition is expensive, but essential. The control and eradication activities, testing and inspection cannot be done without their use.

The requested replacements will be substituted for those cars which have become uneconomical to continue to operate because of their age, mileage or both.

Age and Mileage Data for passenger-carrying vehicles on hand as of June 30, 1975:

Age Data			Mileage Data		
Age-Year Model	Number of Vehicles	Percent of Total	Lifetime Mileage (thousands)	Number of Vehicles	Percent of Total
1968	11	2	Over 100	19	3
1969	21	3	80 - 100	61	10
1970	52	8	60 - 80	140	22
1971	120	19	40 - 60	135	21
1972	-	-	20 - 40	169	27
1973	250	39	Under 20	111	17
1974	168	27			
1975	13	2			
Totals	635	100		635	100

AIRCRAFT

The 1977 Budget Estimates propose the acquisition of two additional aircraft and the replacement of two of the aircraft presently maintained by the Agency.

Additional Aircraft

The two additional aircraft will be used by the U.S.-Mexico screwworm eradication program as observation planes. They will fly behind the planes which are releasing the sterile screwworm flies, monitor the procedure to insure proper delivery and gather data obtainable only by inflight observation.

The data collected by the observation planes will allow us to evaluate the technique of the fly release system currently used and modify it, if necessary, to achieve greater effectiveness in the release procedure.

Although the procurement of these aircraft was authorized in FY 1975, the purchase of them will be delayed until FY 1977 when the new Mexican plant begins production of sterile screwworm flies.

Replacement

The two aircraft for replacement will be utilized primarily in plant pest control operations. Of the seven planes designated for use by the Plant Protection Program, three have more than one thousand hours on each engine. Two of these planes are 1973 models and one a 1971 model. The remainder were built prior to 1970. These aircraft are sometimes used to supervise and observe contract planes which are newer, faster models than the ones we have available.

In addition to making aerial surveys and aerial application tests, the planes are used for insect trapping operations and for demonstrating the use of special equipment for suppression of destructive insects attacking crops.

COOPERATIVE STATE RESEARCH SERVICE

Purpose Statement

The Cooperative State Research Service was established by Secretary's Memorandum No. 1462, dated July 19, 1961, and Supplemental 1, dated August 31, 1961, under Reorganization Plan No. 2 of 1953. The primary function of the Service is to administer Acts of Congress that authorize Federal appropriations for agricultural research carried on by the State agricultural experiment stations of the 50 States, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia; by approved schools of forestry; Colleges of 1890 and Tuskegee Institute; and nonprofit institutions.

Administration of payments and grants involves the review and approval in advance of each individual research proposal submitted by a State agricultural experiment station or other institution to be financed in whole or in part from Federal grant funds, the disbursement of the funds, and the continuous review and evaluation of research programs and expenditures thereunder. The Service also encourages and assists in the establishment and maintenance of cooperation within and between the States, and participates in the planning and coordination of research programs between the States and the U. S. Department of Agriculture.

The program coordination and planning is carried out by a Cooperative State Research Service staff located entirely in Washington, D.C. As of November 1, 1975, there were 82 full-time permanent employees and 13 other than permanent employees.

Available Funds and Man-Years

1975 and Estimated, 1976 and 1977

Item	Actual		Estimated		Budget Estimate	
	1975		Available, 1976		1977	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Cooperative State						
Research Service	\$101,749,000	77	\$114,460,000	88	\$122,508,000	90
Obligations under other:						
<u>USDA appropriations</u>						
Various research						
agencies for share						
of cost of Current						
Research Informa-						
tion System						
(CRIS)	338,955	9	260,000	7	285,000	8
Agricultural						
Research Service,						
Pesticides Coordi-						
nation Fund	50,000	--	--	--	--	--
Office of the						
Secretary, Manage-						
ment Services	35,687	2	--	--	--	--
Miscellaneous						
reimbursements	--	--	5,000	--	--	--
Total, Agricul-						
ture Appropria-						
tions	102,173,642	88	114,725,000	95	122,793,000	98
<u>Other Federal Funds</u>	1,324,619	--	2,281,800	--	1,214,800	--
<u>Non-Federal Funds</u>	3,884	--	130,000	3	141,000	3
Total, Cooperative						
State Research						
Service	103,502,145	88	117,136,800	98	124,148,800	101

End-of-Year Employment:

	1975	1976	1977
	<u>Actual</u>	<u>Estimated</u>	<u>Estimated</u>
Permanent full-time	83	85	85
Other	14	20	18
Total employment	97	105	103
Youth programs and/or develop-			
mental positions under the			
Worker/Trainee Opportunity			
Program	-2	-2	-2
Employment included in ceilings .	95	103	101

Cooperative State Research Service

Appropriation Act, 1976	\$114,460,000
Budget Estimate, 1977	<u>122,508,000</u>
Increase in Appropriation	<u>+8,048,000</u>

SUMMARY OF INCREASES AND DECREASES

	<u>1976</u>	<u>Increase or Decrease</u>	<u>1977 Estimate</u>
Payments to agricultural experiment stations under the Hatch Act, and for penalty mail	\$84,934,000	+\$13,039,000	\$97,973,000
Grants for cooperative forestry research	7,462,000	- -	7,462,000
Contracts and grants for scientific research	19,546,000	-3,594,000	15,952,000
Funds for rural development research ..	1,500,000	-1,500,000	- -
Federal Administration (direct appropriation):			
GSA space rental costs	142,000	+6,000	148,000
All other	<u>876,000</u>	<u>+97,000</u>	<u>973,000</u>
Total, Federal Administration ...	<u>1,018,000</u>	<u>+103,000</u>	<u>1,121,000</u>
Total available	<u>114,460,000</u>	<u>+8,048,000</u>	<u>122,508,000</u>

PROJECT STATEMENT

Project	1975	1976 (estimated)	Increase or Decrease	1977 (estimated)
1. <u>Payments to agricultural experiment stations under the Hatch Act, and for penalty mail:</u>				
a. Research program	\$74,249,062	\$82,153,871	+\$12,647,830	\$94,801,701
b. Penalty mail	461,131	476,000	- -	476,000
c. Set-aside for Federal administration (3%) .	1,964,401	2,304,129	+391,170	2,695,299
Total, Hatch Act ...	76,674,594	84,934,000	+13,039,000(1)	97,973,000
2. <u>Grants for cooperative forestry research</u>	7,070,000	7,462,000	- -	7,462,000
3. <u>Contracts and grants for scientific research</u> .	15,224,000	19,546,000	-3,594,000(2)	15,952,000
4. <u>Funds for rural development research:</u>				
a. Research program	1,440,000	1,440,000	-1,440,000	- -
b. Set-aside for Federal administration (4%) .	60,000	60,000	-60,000	- -
Total, Rural Development	1,500,000	1,500,000	-1,500,000(3)	- -
5. <u>Federal Administration</u> (direct appropriation) .	919,000	1,018,000	+103,000(4)	1,121,000
Unobligated balance	361,406	- -	- -	- -
Total appropriation or estimate	101,749,000	114,460,000	+8,048,000	122,508,000

EXPLANATION OF PROGRAM

The appropriation "Cooperative State Research Service" funds the activities authorized under the following acts:

1. Payments to agricultural experiment stations under the Hatch Act, and for penalty mail - (Agricultural Experiment Stations Act of August 11, 1955 (Hatch Act of 1887 as Amended - 7 U.S.C. 361a-361i), Education Amendments of 1972 (86 Stat. 350-52), and P. L. 93-471, October 26, 1974).

a. Research Program: The Hatch program of research at the State agricultural experiment stations is aimed at promoting efficient production, marketing, distribution and utilization of crops and animals that are essential to the food supply or health and welfare of the people of the United States. This program is also aimed at improving rural living. Six research program groupings encompass the range of research funded under this act:

Natural Resources - Areas of research included are soil and land use, water and watersheds, outdoor recreation, environmental quality, fish and wildlife, and remote sensing. This research comprises about 12% of the total Hatch funds for research.

Forestry Resources - Forestry related research under Hatch has similar research objectives as the McIntire-Stennis Cooperative Forestry Research program and is fully coordinated with it. The Hatch forestry research program is characterized by a higher degree of multi-institutional or regional projects. This research comprises about 2% of the total Hatch funds for research.

Crops Resources - Areas of research included under this research program grouping are crop protection and production systems for dependable and efficient production, quality improvement, quality maintenance, product development and related commodity aspects of marketing of crops. This research comprises about 34% of the total Hatch funds for research.

Animal Resources - Areas of research included under this research program grouping are protection, production and management aspects of beef and dairy animals, swine, sheep, other animals and poultry. It also includes quality improvement, product development, and related commodity aspects of marketing. This research comprises over 29% of the total Hatch funds for research.

People, Communities and Institutions - Areas of research included under this research program grouping are food and nutrition, food safety and rural development. This research comprises over 14% of the total Hatch funds for research.

Competition, Trade Adjustments and Income Policy - Areas of research included under this research program grouping are farm adjustments, prices and income, economic aspects of marketing and competition. This research comprises about 9% of the total Hatch funds for research.

b. Penalty Mail: The Hatch Act of 1887, as Amended (7 U.S.C. 361f), provides for the mailing under penalty indicia by agricultural experiment stations of bulletins, reports, periodicals, reprints of articles, and other publications necessary for the dissemination of results of research, including lists of such publications.

Mailings include not only those to individual farmers upon request but also to newspapers, libraries, other experiment stations, and organizations interested in results of research and dissemination of such results. Under Title 39 U.S.C. 3206(b) and 3202(a)(4), the Department pays the U. S. Postal Service to cover postage of mail sent under the penalty privilege by the State agricultural experiment stations.

c. Set-aside for Federal Administration: The Hatch Act provides that 3% of funds appropriated under the Hatch Act be set aside for Federal administration. Administration includes disbursement of funds and a continuous review and evaluation of the research programs of the State agricultural experiment stations supported wholly or in part from Hatch funds. This Agency encourages and assists in the establishment of cooperation within and between the States, and also actively participates in the planning and coordination of research programs between the States and the Department at the regional and national level.

2. Grants for Cooperative Forestry Research - (Cooperative Forestry Research Act of October 10, 1962 (16 U.S.C. 582a--582a-7), Education Amendments of 1972 (86 Stat. 350-52)).

Research funded under this act is described within the following areas: inventory and appraisal of forest resources; forest production systems and

management; forest protection; harvesting, manufacturing, and wildlife; fisheries habitat development; forest recreation and landscape values; and alternative uses of forest land. Timber production and wood utilization and distribution systems are key elements of forestry research. The research is planned and directed to provide answers to the complex questions that face forest land managers who are seeking to produce an adequate timber supply for home and other construction, to meet the demands for wildlife production and recreational opportunity on forests, and to assure an acceptable level of environmental quality in relation to all forest operations and uses.

3. Contracts and Grants for Scientific Research - (Act of September 6, 1958 (42 U.S.C. 1891-1893), and the Act of August 4, 1965 (7 U.S.C. 450i)).

This program provides special concentration on problems of national interest where such concentration is desirable or necessary beyond the normal emphasis in the formula grant program. It has two components: A specific research program which places major research emphasis on specific national problems identified by the Department and by the Congress, and a specific research program for 1890 Land-Grant Colleges and Tuskegee Institute. Grants are approved for a maximum of five years. Under the specific grant component which is directed to major national needs, research on environmental quality; food and nutrition; beef and pork production; soybeans; pest management; transportation, marketing and storage; forage, pasture and range; genetic vulnerability; and pesticide clearance and safe use have received emphasis in FY 1976. Under the program of support to 1890 colleges and Tuskegee Institute, emphasis is on research to aid disadvantaged rural people.

4. Funds for Rural Development Research - (Rural Development Act of 1972 (7 U.S.C. 2661-2668)).

Grants under the Rural Development Act of 1972 are allotted to land-grant colleges and universities of the 50 States and Puerto Rico to conduct pilot research programs in support of the development of rural areas. No funding is proposed in the 1977 estimates for rural development grants since authorization for appropriation of funds under Title V of the Rural Development Act of 1972 has expired.

5. Federal Administration (direct appropriation) - Authority for direct appropriations is provided in the annual USDA and Related Agencies Act.

These funds are used to provide support services in connection with research planning and coordination of all programs administered by the Cooperative State Research Service to provide adequate monitoring of all projects, both in the proposal stage and during the conduct of the research, and to meet pay cost increases and space rental costs.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$13,039,000 under the formula provision of the Hatch Act to provide significant new fundamental research ultimately aimed at increasing the efficiency of agricultural production (including an increase of \$391,170 for administration of the Hatch Act). (\$84,458,000 available in 1976.)

Need for Increase: Continued improvements in agricultural productivity will be enhanced by increased support for related fundamental research. The long range outlook for American agriculture is an ever increasing demand for its output and increased emphasis on environmental improvement. Many of the recognized opportunities for advances in agriculture will be hastened by increased fundamental research. Photosynthetic efficiency, biological nitrogen fixation, new plant development techniques for genetic manipulation beyond those of conventional plant breeding, nature of resistance to pests and physiology of animal reproduction are examples of areas of promising opportunity, but inadequate funding. Experience has also shown that fundamental research can be expected to identify new opportunities for improving agriculture that are not recognized today.

Plan of Work: One or more areas of fundamental research would be established or strengthened in each State with the aim of providing information, insights, and new methodology that would permit greater advances in applied fields. Recommendations from recent studies of research needs (e.g. The World Food and Nutrition Study entitled "Enhancement of Food Production for the United States" and a report entitled "Agricultural Production Efficiency" both from the National Academy of Sciences and the report "Research to Meet U. S. and World Food Needs" from the 1975 Kansas City Food Conference) will be used as guides in development of the program. The intent is to provide continuing support for essential fundamental research related to agriculture, to help correct the funding situation that has been generally recognized as inadequate.

Emphasis will be placed on biological processes that control crop and livestock productivity. Research will be supported to strengthen our fundamental knowledge about photosynthesis; nitrogen fixation; crop and livestock protection; water and nutrient efficiencies; genetics; biochemical aspects of handling and processing crops, livestock, and fish; and plant-soil-water relationships.

- (2) A net decrease of \$3,594,000 for contracts and grants for scientific research consisting of:

Colleges of 1890 and Tuskegee Institute (\$12,706,000 available in 1976)	+\$646,000
Specific research grants to further USDA programs	-4,240,000
Forage, pasture, and range research	-\$800,000
Soil erosion in the Pacific Northwest	-200,000
Genetic vulnerability strategies	-200,000
Beef and pork production research	-1,425,000
Lone star tick research	-75,000
Environmental quality research	-600,000
Food and nutrition research	-715,000
Taro research	-75,000
Food and agriculture policies	-150,000

(a) An increase of \$646,000 for research at the Colleges of 1890 and Tuskegee Institute.

Need for Increase: The increase is needed to provide at the Land-Grant Colleges of 1890 and Tuskegee Institute funds for expanded research to improve crop and livestock production of low income farmers and to increase research efforts toward solving nutritional problems of low income people. Low income farmers feel the effects of rising costs more acutely and quickly than other farmers. Research is urgently needed to help these farmers continue in agriculture on a profit-making basis. A high proportion of these farmers are in the South in areas served by these institutions which are well suited to develop such knowledge and technology. Also, there is a pressing need for more data on food consumption habits of low income persons and on the nutritional quality of the food consumed. The studies needed are beyond the resources and manpower available in the human research program dealing with low income people.

Plan of Work: Integrated crop and livestock production and marketing systems will receive strong emphasis. Opportunities for such integration exist in production of beef cattle, feeder pigs, rabbits, turkeys, broilers, eggs, and specialty poultry products (ducks, geese, guinea fowl, pheasant, quail, and squab). Intensive yet economic production of feed grains has a special importance to the small farmer. Home gardens, home fruit and nut orchards are being investigated as a part of rural life improvement - pick-your-own vegetable and fruit enterprises and in rural areas experiencing urbanization, marketing through roadside stands.

Nutrition research will be coordinated with but will not duplicate the information gained in the nationwide study on food consumption by the Agricultural Research Service and will relate to special and generalized age groups, health conditions, income resources and foods. Nutritional requirements and intake for optimal nutritional health will be ascertained, with emphasis on adults, college students and the elderly. Obesity and physical performance as indices of nutritional and physiological functioning are the intended health emphases. Effects of food processing on nutritive quality, trace mineral content of selected food products, and newer equipment adaptations to food and nutrition assessments will directly complement other segments of the human nutrition research program.

(b) A reduction of \$4,240,000 in grants to further USDA programs.

This reduction represents part of a realignment of research efforts so as to concentrate available resources in the high priority area of basic research that will lead to increased productivity of food and fiber. Because of the broad nature of this research area, most States have existing base programs. Therefore, concentration of funding at fewer locations through the specific grants program is not advantageous.

Continuation of funding for certain research areas is proposed through the specific grants program in 1977. The specific grants program will continue to be utilized where concentration at selected locations, special coordination by the Department, or other high priority purposes are better served through this program.

- (3) A decrease of \$1,500,000 for funds for Rural Development Research (\$1,500,000 available in 1976).

No funding is proposed for rural development grants in fiscal year 1977 since authorization for appropriation of funds under title V of the Rural Development Act of 1972 has expired.

- (4) An increase of \$103,000 for Federal administration (direct appropriation) (\$1,018,000 available in 1976) consisting of:

- (a) An increase of \$97,000 for pay increases effective in fiscal year 1976.
 (b) An increase of \$6,000 for space rental costs.

Under current procedure the Agency is required to budget for the cost of agency occupied GSA controlled space. The 1976 Appropriation Act limited the Department to paying 90 percent of the standard level user charge used in computing the 1976 request. For fiscal year 1977 the Budget reflects 100 percent funding for the estimated billings provided by the General Services Administration.

The following table summarizes the funds available for Federal administration under the Hatch Act and Rural Development Act, including funds available under the direct appropriation for Cooperative State Research Service administration:

	<u>1975</u>	<u>1976</u>	<u>Increase or Decrease</u>	<u>1977 Estimate</u>
Direct appropriation ..	\$955,000	\$1,018,000	+\$103,000	\$1,121,000
Set-aside for Federal administration of Hatch Act (3%)	2,072,409	2,304,129	+391,170	2,695,299
Set-aside for Federal administration of Rural Development Act of 1972 (4%)	<u>60,000</u>	<u>60,000</u>	<u>-60,000</u>	<u>- -</u>
Total	<u>3,087,409</u>	<u>3,382,129</u>	<u>+434,170</u>	<u>3,816,299</u>

Justifications for the above increases or decreases in Federal administration appear in the preceding material under the appropriate headings.

STATUS OF PROGRAM

This appropriation provides the Federal Government's contribution to land-grant agricultural experiment stations, schools of forestry and other eligible institutions in the various States and in Puerto Rico, Guam, the Virgin Islands, and District of Columbia, established pursuant to the provisions of the Hatch Act of 1887, as amended by the Act of August 11, 1955, and further amended by Public Law 92-318 approved June 23, 1972, and further amended by Public Law 93-471 approved October 26, 1974; Cooperative Forestry Research Act of October 10, 1962, as amended by Public Law 92-318 approved June 23, 1972; Research Facilities Act of July 22, 1963; Grants for Scientific Research, Section 2 of Public Law 89-106, approved August 4, 1965; and Rural Development Act of 1972, Title V of Public Law 92-419, approved August 30, 1972.

The State institutions conduct research and experiments on the problems constantly encountered in the development of a permanent and sustaining agriculture and forestry, and in the improvement of the economic and social welfare of rural and urban families. Because of differences in climate, soil, market outlets, and other local conditions, each State has distinct problems in the production and marketing of crops and livestock. Farmers, foresters and rural people in the individual States naturally look to their State agricultural experiment stations, universities and colleges for solution of the State and local problems and, in recent years, have requested increased services to help meet changing conditions.

Research programs at the State agricultural experiment stations, to be most effective, include participation in regional and national programs. Joint attack by a group of State stations is the most effective and often the only practical approach to problems of common interest. The stations, to an ever increasing extent, are acting together as regional groups to provide cooperative coordinated attacks on problems of regional and national interest. In a similar manner, the research programs of the State agricultural experiment stations and the Department of Agriculture are supplementary and interdependent.

The Federal-grant funds constitute a powerful force in bringing about inter-State cooperation and Federal-State collaboration in the planning and conduct of this overall program of agricultural research. Therefore, the impact of the Federal-grant funds cannot be fully evaluated solely on the basis of the amount of funds provided.

Research at the State institutions is organized into a program of projects that is submitted for review and evaluation by the Service. The program of projects is financed wholly or in part from Federal-grant funds. Programs and projects are evaluated periodically with station scientists by administrators and technical staff of the Cooperative State Research Service. The evaluation includes consideration of quality and productivity of the program and projects. The continuing process of research evaluation by station scientists and the staff of the Cooperative State Research Service results in a dynamic program with approximately 15 to 22 percent of the projects being replaced by new projects each year.

Distribution of Payments:

Hatch Act: The Agricultural Experiment Stations Act of August 11, 1955 (Hatch Act, as amended) provides that the distribution of Federal payments to States for fiscal year 1955 shall become a fixed base and that any sums appropriated in excess of the 1955 level shall be distributed in the following manner:

- 20% shall be allotted equally to each State.

- not less than 52% shall be allotted to the States as follows:

- One-half in an amount proportionate to the relative rural population of each State to the total rural population of all States, and one-half in an amount proportionate to the relative farm population of each State to the total farm population of all States.

-not more than 25% shall be allotted to the States for cooperative research in which two or more State agricultural experiment stations are cooperating to solve problems that concern the agriculture of more than one State.

-3% shall be available to the Secretary of Agriculture for the administration of this Act.

The Act also provides that any amount in excess of \$90,000 available for allotment to any State, exclusive of the regional research fund, shall be matched by the State out of its own funds for research, and for the establishment and maintenance of facilities necessary for the prosecution of such research. It also requires marketing research be continued as it existed in fiscal year 1955 and provides that 20% of the funds appropriated for distribution to States in excess of the 1955 appropriations shall be used for conducting marketing research projects approved by the Department of Agriculture.

Cooperative Forestry Research: The Cooperative Forestry Research Act of October 10, 1962, provides that the apportionment among States shall be determined by the Secretary after consultation with a national advisory board of not less than seven officials of the forestry schools of the State-certified eligible colleges and universities chosen by a majority of such schools. In making such apportionments consideration shall be given to pertinent factors including, but not limited to, areas of non-Federal commercial forest land and volume of timber cut annually from growing stock. The Act also limits the payments to the amount made available and budgeted from non-Federal sources by the certified institutions for expenditure for forestry research.

Scientific Research Grants: Section 2 of the Act of August 4, 1965 (7 U.S.C. 450i) authorizes grants to State agricultural experiment stations, colleges, universities, and other research institutions and organizations and to Federal and private organizations and individuals for research to further the programs of the Department of Agriculture. In fiscal year 1976, \$12,706,000 of the \$19,546,000 appropriated for this program was earmarked for the Colleges of 1890 and Tuskegee Institute.

Research Facilities: The Research Facilities Act of July 22, 1963, provides that funds be allocated as follows:

- one-third equally to each State.

- two-thirds allotted to the States as follows:

- One-half in an amount proportionate to the relative rural population of each State to the total rural population of all States, and one-half in an amount proportionate to the relative farm population of each State to the total farm population of all States.

The Act also limits the payments to the amount made available by such State from non-Federal funds for the same purpose. Funds were appropriated, under the authority of this Act, for fiscal years 1965-1968 and 1970. No funds were appropriated for this program in fiscal year 1969 and 1971-1976.

Rural Development Research: The Rural Development Act of 1972 provides that funds be allocated as follows:

- 20% shall be allocated equally to each State.

- 66% shall be allocated to each State as follows:

- One-half in an amount proportionate to the relative rural population of each State to the total rural population of all States, and one-half in an amount proportionate to the relative farm population of each State to the total farm population of all States.

- 10% shall be allocated to the States for research serving two or more States in which universities in two or more States cooperate or which is conducted by one university to serve two or more States.

- 4% shall be available to the Secretary of Agriculture for Federal administration, national coordination, and program assistance to the States.

No funding is proposed in the 1977 estimates for rural development grants since authorization for appropriation of funds under Title V of the Rural Development Act of 1972 has expired.

Penalty Mail: The Hatch Act of 1887, as amended (7 U.S.C. 361f), provides for the mailing under penalty indicia by agricultural experiment stations of bulletins, reports, periodicals, reprints of articles, and other publications, including lists of publications necessary for dissemination of results of research. Mailings include not only those to individual farmers upon request but also to newspapers, libraries, other experiment stations, and organizations interested in results of research and dissemination of such results.

Under title 39 U.S.C. 3206(b) and 3202(a)(4), the Department paid to the U. S. Postal Service \$461,131 to cover postage of mail sent under the penalty privilege by the State agricultural experiment stations during fiscal year 1975. Funds of \$476,000 have been set-aside from the fiscal year 1976 appropriation for payments to States under the Hatch Act for payments to the U. S. Postal Service.

Table 1 shows the distribution of payments from appropriations of the Cooperative State Research Service to State agricultural experiment stations and other State institutions. It also reflects non-Federal funds (primarily State appropriations) for research at State agricultural experiment stations, and at cooperating forestry and other State institutions for the fiscal year 1975. Table 2 shows the available funds for State agricultural experiment stations and other eligible institutions for the fiscal years 1975, 1976, 1977. Table 3 indicates the estimated distribution of 1976 Federal funds by research program areas. Table 4 shows the fiscal year 1975 and proposed fiscal years 1976 and 1977 distributions of grants for Cooperative Forestry Research. Table 5 shows the fiscal year 1975 and proposed fiscal years 1976 and 1977 distribution of special grant funds to the 1890 Land-Grant Colleges and Tuskegee Institute. Table 6 shows fiscal year 1975 and proposed fiscal year 1976 distribution of payments to States for research components of Title V, Rural Development Act of 1972.

State	Hatch Act, as amended		Cooperative: Contracts &					Total		
	Regular : Formula	Regional : Research	TOTAL	Forestry : Research (M-S)	Grants for : Scientific Research	Rural : Development Act	Other : Funds	Federal Grant Funds	Non-Federal Funds	Grand Total
Ohio	1,975,962:	353,420:	2,329,382:	138,804:	105,000:	50,843:	:	2,624,029:	10,553,100:	13,177,129
Oklahoma	1,095,441:	244,585:	1,340,026:	111,739:	645,889:	23,336:	:	2,120,990:	6,602,018:	8,723,008
Oregon	796,610:	436,059:	1,232,669:	247,065:	75,000:	55,455:	:	1,610,189:	8,664,918:	10,275,107
Pennsylvania	2,050,211:	477,180:	2,527,391:	188,424:	:	49,096:	:	2,764,911:	6,818,135:	9,583,046
Puerto Rico	1,701,728:	330,093:	2,031,821:	:	:	34,225:	:	2,066,046:	6,111,903:	8,177,949
Rhode Island	408,224:	182,027:	590,251:	35,054:	:	7,119:	:	632,424:	1,010,592:	1,643,016
South Carolina	1,315,956:	282,128:	1,598,084:	174,891:	735,251:	24,517:	:	2,532,743:	7,574,441:	10,107,184
South Dakota	764,193:	274,045:	1,038,238:	48,587:	:	18,560:	:	1,105,385:	3,439,507:	4,544,892
Tennessee	1,755,761:	357,631:	2,113,392:	165,870:	814,249:	38,662:	:	3,132,173:	5,733,055:	8,865,228
Texas	2,244,670:	477,782:	2,722,452:	197,446:	1,025,333:	48,565:	:	3,993,796:	20,019,078:	24,012,874
Utah	502,368:	320,527:	822,895:	84,674:	96,940:	9,264:	:	1,013,773:	2,518,582:	3,532,355
Vermont	512,265:	143,635:	655,900:	98,208:	89,750:	10,114:	:	853,972:	1,228,000:	2,081,972
Virginia	1,524,338:	313,912:	1,838,250:	192,935:	946,063:	32,386:	:	3,009,634:	7,713,023:	10,722,657
Virgin Islands	217,557:	:	217,557:	17,011:	:	:	:	234,568:	75,402:	309,970
Washington	908,526:	541,692:	1,450,218:	251,576:	179,730:	20,705:	:	1,902,229:	9,618,192:	11,520,421
West Virginia	1,019,919:	216,609:	1,236,528:	143,315:	:	18,765:	:	1,398,608:	1,829,312:	3,227,920
Wisconsin	1,575,970:	420,154:	1,996,124:	179,402:	:	43,317:	:	2,218,843:	11,356,346:	13,575,189
Wyoming	461,694:	255,340:	717,034:	66,630:	87,366:	8,862:	:	879,892:	1,779,866:	2,659,758
Subtotal	57,779,640:	16,463,693:	74,243,333:	7,070,000:	15,224,000:	1,440,000:	:	97,977,333:	404,861,615:	502,838,948
Committee of Nine (Travel)	:	5,729:	5,729:	:	:	:	:	5,729:	:	5,729
Unobligated Balance	254,388:	12,641:	267,029:	:	:	:	:	267,029:	:	267,029
Subtotal	58,034,028:	16,482,063:	74,516,091:	7,070,000:	15,224,000:	1,440,000:	:	98,250,091:	404,861,615:	503,111,706
Federal Administration:	:	:	:	:	:	:	:	:	:	:
Hatch funds (3%)	:	:	1,964,401:	:	:	:	:	1,964,401:	:	1,964,401
Unobligated Balance	:	:	103,508:	:	:	:	:	103,508:	:	103,508
Rural Development (4%)	:	:	:	:	:	60,000:	:	60,000:	:	60,000
Appropriation (Direct)	:	:	:	:	:	:	919,000:	919,000:	:	919,000
Subtotal	:	:	2,067,909:	:	:	60,000:	919,000:	3,046,909:	:	3,046,909
Penalty Mail	:	:	461,131:	:	:	:	:	461,131:	:	461,131
Unobligated Balance	:	:	-9,131:	:	:	:	:	-9,131:	:	-9,131
Grand Total	58,034,028:	16,482,063:	77,036,000:	7,070,000:	15,224,000:	1,500,000:	919,000:	101,749,000:	404,861,615:	506,610,615

Table 2
Available Funds for Cooperative State Research Service
Fiscal Years 1975, 1976, and 1977
(In Dollars)

State	1975 Actual	1976 Estimate	1977 Estimate
1. <u>Payments to Agricultural</u>			
<u>Experiment Stations under the</u>			
<u>Hatch Act, and for Penalty Mail:</u>			
a. Distributed by formula:			
Alabama	\$1,518,375	\$1,634,676	\$1,833,911
Alaska	404,493	435,658	493,912
Arizona	542,665	586,793	666,513
Arkansas	1,265,071	1,367,265	1,543,139
California	1,560,461	1,697,054	1,929,892
Colorado	697,379	760,579	871,881
Connecticut	591,191	649,970	746,373
Delaware	433,546	467,062	529,208
District of Columbia .....	....	241,868	290,161
Florida	944,789	1,036,189	1,194,190
Georgia	1,622,603	1,756,190	1,984,050
Guam	207,307	362,258	414,622
Hawaii	454,558	486,597	545,213
Idaho	640,682	700,289	805,603
Illinois	1,781,120	1,978,199	2,311,199
Indiana	1,594,098	1,775,979	2,083,812
Iowa	1,639,727	1,831,590	2,155,953
Kansas	1,081,982	1,192,167	1,381,009
Kentucky	1,733,299	1,911,522	2,204,508
Louisiana	1,151,541	1,249,611	1,418,657
Maine	604,316	653,015	740,304
Maryland	799,172	873,226	1,002,503
Massachusetts	711,886	774,754	884,497
Michigan	1,675,429	1,852,782	2,153,116
Minnesota	1,561,232	1,741,923	2,047,786
Mississippi	1,597,884	1,718,739	1,925,516
Missouri	1,597,817	1,760,367	2,036,188
Montana	610,771	667,475	768,020
Nebraska	981,850	1,084,791	1,261,903
Nevada	398,213	428,666	485,741
New Hampshire	480,880	520,305	591,949
New Jersey	693,016	755,391	865,327
New Mexico	563,605	610,262	692,210
New York	1,667,023	1,835,299	2,120,603
North Carolina	2,380,125	2,598,246	2,966,091
North Dakota	760,141	834,289	963,720
Ohio	1,975,962	2,186,858	2,542,739
Oklahoma	1,095,441	1,192,710	1,360,429
Oregon	796,610	871,635	1,002,520
Pennsylvania	2,050,211	2,253,828	2,597,654
Puerto Rico	1,701,728	1,845,540	2,087,793
Rhode Island	408,224	438,530	495,280
South Carolina	1,315,956	1,418,070	1,593,811
South Dakota	764,193	841,743	976,807
Tennessee	1,755,761	1,916,355	2,188,938
Texas	2,244,670	2,446,171	2,786,494
Utah	502,368	541,488	612,915

		1975	1976	1977
State		Actual	Estimate	Estimate
Vermont		\$512,265	\$555,108	\$632,345
Virginia		1,524,338	1,658,971	1,888,564
Virgin Islands		217,557	357,103	408,438
Washington		908,526	994,906	1,144,593
West Virginia		1,019,919	1,098,268	1,234,657
Wisconsin		1,575,970	1,755,823	2,060,297
Wyoming		461,694	499,155	567,834
Subtotal		57,779,640	63,703,308	73,091,388
a/ b.	Regional Research Funds	16,463,693	18,438,563	21,698,313
	Committee of Nine Travel ...	5,729	12,000	12,000
	Total agricultural research			
	under the Hatch Act	74,249,062	82,153,871	94,801,701
	For administration	1,964,401	2,304,129	2,695,299
	For penalty mail	461,131	476,000	476,000
	Subtotal	76,674,594	84,934,000	97,973,000
b/2.	Grants for cooperative forestry			
	research	7,070,000	7,462,000	7,462,000
3.	Contracts and grants for			
	scientific research	15,224,000	19,546,000	15,952,000
4.	Grants for facilities .....	....	....	....
5.	Funds for rural development			
	research:			
	Research program	1,440,000	1,440,000	....
	For administration	60,000	60,000	....
	Subtotal, rural development	1,500,000	1,500,000	....
c/6.	Federal Administration:			
	Included in item 1 above	(1,964,401)	(2,304,129)	(2,695,299)
	Included in item 5 above	(60,000)	(60,000)	....
	Direct appropriation	919,000	1,018,000	1,121,000
	Unobligated balance	361,406	....	....
	Subtotal, appropriated funds .	101,749,000	114,460,000	122,508,000
	Reimbursements	422,412	421,000	452,000
	Allotments from:			
	Office of Secretary	35,687	....	....
	Agricultural Research Service .	50,000	....	....
	Forest Service	1,241,162	1,183,800	1,183,800
	Environmental Protection			
	Agency .....	....	1,067,000	....
	Trust Fund	3,884	5,000	5,000
Total available or estimate		103,502,145	117,136,800	124,148,800

- a/ Allotted to States on the basis of recommendations by a committee of experiment station directors and approved by the Cooperative State Research Service.
- b/ Apportioned among the States on a basis determined by the Secretary after consultation with a national advisory board of not less than seven officials of forestry schools selected by eligible institutions. See Table 4 for distribution.
- c/ Man-years related to all funds for CSRS staff located entirely in Washington, D. C. are as follows: 1975 - 88 man-years; 1976 - 98 man-years; 1977 - 101 man-years.

Table 3

Estimated Distribution by Research Programs of Federal Payments
to State Agricultural Experiment Stations, Schools of Forestry
and Colleges of 1890 and Tuskegee Institute
Fiscal Year 1976 (In thousands of dollars)

Natural Resources Programs	
Soil and land use	2,830
Water and watersheds ^{1/}	1,123
Environmental quality	6,802
Fish and wildlife	431
Outdoor recreation	492
Weather	424
Remote sensing	100
Forestry Resources Programs	
Forestry ^{2/}	8,678
Crop Resources Programs	
Protection from disease, insect pests, and weeds ^{3/}	13,063
Crop varieties and production systems for dependable and efficient production	16,177
Quality improvement, quality maintenance, and marketing of crops	5,728
Animal Resources Programs	
Meat animal research	9,466
Dairy research	4,631
Poultry research	2,848
Other animal research	968
Quality improvement, quality maintenance, and marketing of animal products	7,285
People, Communities, and Institutions Resources Programs	
Food and nutrition	6,112
Food safety	2,036
Rural development	12,178
Insects affecting man	301
Competition, Trade Adjustments and Price, and Income Policy	
Farm adjustments necessary to increase farm income	3,188
Marketing and competition	5,741
Penalty Mail	476
Federal Administration	<u>3,382</u>
GRAND TOTAL	<u><u>114,460</u></u>

^{1/} Includes water pollution research.

^{2/} McIntire-Stennis Funds are also included under other appropriate resource programs.

^{3/} Includes activities to reduce or avoid the use of pesticides.

Table 4
Available Funds for McIntire-Stennis Cooperative
Forestry Research for FY 1975, 1976, and 1977
(In Dollars)

	1975 <u>Actual</u>	1976 <u>Estimate</u>	1977 <u>Estimate</u>
Alabama	\$233,533	\$247,117	\$247,117
Alaska	116,250	122,626	122,626
Arizona	107,228	113,050	113,050
Arkansas	210,978	223,176	223,176
California	238,043	251,905	251,905
Colorado	125,272	132,202	132,202
Connecticut	75,652	79,533	79,533
Delaware	39,565	41,229	41,229
Florida	183,913	194,448	194,448
Georgia	242,554	256,693	256,693
Guam	....	....	....
Hawaii	62,120	65,169	65,169
Idaho	161,359	170,507	170,507
Illinois	134,293	141,780	141,780
Indiana	129,783	136,991	136,991
Iowa	93,696	98,686	98,686
Kansas	57,609	60,381	60,381
Kentucky	147,826	156,143	156,143
Louisiana	220,000	232,753	232,753
Maine	201,957	213,600	213,600
Maryland	89,185	93,898	93,898
Massachusetts	102,717	108,262	108,262
Michigan	206,467	218,388	218,388
Minnesota	170,380	180,083	180,083
Mississippi	224,511	237,541	237,541
Missouri	156,848	165,719	165,719
Montana	152,337	160,931	160,931
Nebraska	53,098	55,593	55,593
Nevada	44,076	46,017	46,017
New Hampshire	120,761	127,414	127,414
New Jersey	71,141	74,745	74,745
New Mexico	80,163	84,321	84,321
New York	215,489	227,964	227,964
North Carolina	229,022	242,329	242,329
North Dakota	30,543	31,652	31,652
Ohio	138,804	146,567	146,567
Oklahoma	111,739	117,838	117,838
Oregon	247,065	261,481	261,481
Pennsylvania	188,424	199,236	199,236
Puerto Rico	....	....	....
Rhode Island	35,054	36,440	36,440
South Carolina	174,891	184,872	184,872
South Dakota	48,587	50,805	50,805
Tennessee	165,870	175,295	175,295
Texas	197,446	208,812	208,812
Utah	84,674	89,110	89,110
Vermont	98,208	103,474	103,474
Virginia	192,935	204,024	204,024
Virgin Islands	17,011	13,959	13,959
Washington	251,576	266,269	266,269
West Virginia	143,315	151,355	151,355
Wisconsin	179,402	189,660	189,660
Wyoming	66,630	69,957	69,957
TOTAL	7,070,000	7,462,000	7,462,000

Table 5
Special Grant Funds Appropriated to the 1890 Land-Grant Colleges
and Tuskegee Institute, FY 1975 - 1977
(In Dollars)

	<u>1975 Actual</u>	<u>1976 Estimate</u>	<u>Increase 1977</u>	<u>1977 Estimate</u>
ALABAMA:				
Alabama A&M Univ.	\$747,936	\$804,384	\$41,344	\$845,728
Tuskegee Institute	731,940	786,995	40,323	827,318
ARKANSAS:				
Univ. of Arkansas at Pine Bluff	638,699	685,629	34,374	720,003
DELAWARE:				
Delaware State College	286,281	302,510	11,887	314,397
FLORIDA:				
Florida A&M Univ.	481,675	514,926	24,354	539,280
GEORGIA:				
Fort Valley State College	781,851	841,254	43,508	884,762
KENTUCKY:				
Kentucky State College	800,683	861,725	44,710	906,435
LOUISIANA:				
Southern Univ. & A&M College	582,409	624,436	30,782	655,218
MARYLAND:				
Univ. of Maryland				
Eastern Shore	426,499	454,944	20,833	475,777
MISSISSIPPI:				
Alcorn A&M College	775,372	834,210	43,095	877,305
MISSOURI:				
Lincoln University	735,787	791,177	40,569	831,746
NORTH CAROLINA:				
North Carolina A&T				
State University	1,058,743	1,142,268	61,176	1,203,444
OKLAHOMA:				
Langston University	559,629	599,672	29,329	629,001
SOUTH CAROLINA:				
South Carolina State College	651,251	699,277	35,174	734,451
TENNESSEE:				
Tennessee A&I State Univ.	814,249	876,473	45,575	922,048
TEXAS:				
Prairie View A&M College	1,025,333	1,105,949	59,044	1,164,993
VIRGINIA:				
Virginia State College	725,663	780,171	39,923	820,094
TOTAL	<u>11,824,000</u>	<u>12,706,000</u>	<u>646,000</u>	<u>13,352,000</u>

Table 6
Payments to States for Research
Components of Title V, Rural Development Act of 1972

FY 1975 and 1976
(In Dollars)

State	1975 Actual	1976 Estimate
Alabama	\$27,948	\$27,948
Alaska	7,340	7,340
Arizona	10,478	10,478
Arkansas	24,529	24,529
California	32,862	32,862
Colorado	15,092	15,092
Connecticut	12,920	12,920
Delaware	7,908	7,908
Florida	21,925	21,925
Georgia	32,135	32,135
Hawaii	7,392	7,392
Idaho	14,215	14,215
Illinois	47,489	47,489
Indiana	43,813	43,813
Iowa	83,716	46,216
Kansas	26,419	26,419
Kentucky	41,640	41,640
Louisiana	23,537	23,537
Maine	11,585	11,585
Maryland	17,723	17,723
Massachusetts	14,871	14,871
Michigan	42,727	42,727
Minnesota	43,516	43,516
Mississippi	66,546	29,046
Missouri	39,131	39,131
Montana	13,518	13,518
Nebraska	24,703	24,703
Nevada	7,166	7,166
New Hampshire	9,298	9,298
New Jersey	14,898	14,898
New Mexico	10,802	10,802
New York	78,037	40,537
North Carolina	52,593	52,593
North Dakota	17,737	17,737
Ohio	50,843	50,843
Oklahoma	23,336	23,336
Oregon	55,455	17,955
Pennsylvania	49,096	49,096
Puerto Rico	34,225	34,225
Rhode Island	7,119	7,119
South Carolina	24,517	24,517
South Dakota	18,560	18,560
Tennessee	38,662	38,662
Texas	48,565	48,565
Utah	9,264	9,264
Vermont	10,114	10,114

State	1975 Actual	1976 Estimate
Virginia	\$32,386	\$32,386
Washington	20,705	20,705
West Virginia	18,765	18,765
Wisconsin	43,317	43,317
Wyoming	8,862	8,862
4 Percent - Federal Administration	60,000	60,000
10 Percent to Finance Work in 2 or More States	<u>a/</u>	150,000
TOTAL	1,500,000	1,500,000

a/ Regional research reflected in Iowa, Mississippi, New York, and Oregon.

Selected Examples of Recent Progress: Recent accomplishments for the programs of research are cited below:

HATCH ACT

Animal and Plant Production

Limiting Amino Acids in Sorghum for Finishing Swine

Texas studies have shown that the 1-1/2 billion dollar sorghum crop could be 16% more valuable as a feed for finishing swine if properly fortified with amino acids. Sorghum, minerals, vitamins, and amino acids made up the 9.5% protein diet. Good growth of 110 lb. barrows and gilts was obtained with this diet using only 0.32% lysine and 0.09% threonine as the amino acid supplements. Economical lysine is now available. When an economical source of threonine becomes available, the feed costs of finishing swine with sorghum based diets could be reduced by over 10%. This has importance as a feed source for swine producers and feeders in Arkansas, Texas, New Mexico, Arizona, Oklahoma, southern Kansas, and southern California.

Blood Meal as a Protein for Swine

Conventionally dried blood meal is a very poor dietary protein because of the unavailability of the amino acid lysine to the animal. Studies at Michigan and South Dakota have shown that more rapid drying procedures make more lysine available. Up to 4% of the diet in the South Dakota work and 3% in the Michigan work could be made of the rapidly dried blood meal and thus supply the needed lysine supplement in low protein diets. Lysine is the first limiting amino acid in diets for swine. The improved product could meet this need, and solve a major water pollution problem of animal slaughter plants concurrently.

Improving Mold Damaged Corn for Swine

There have been estimates that 10% of the corn crop feeding value is lost each year, due to mold damage. The extent of mold-damaged corn varies from year to year depending upon growth, harvesting, and storage conditions. Corn with 10% mold damage is toxic to pigs. Occasionally, corn is found with as much as 30% mold-damaged kernels. Such corn with *Gibberella zeae* damage is highly toxic to young pigs. Studies in Indiana using 30% damaged kernels showed that extensive water washing - 24 times over 48 hrs. - could largely eliminate the toxin and enable swine to grow as well on formerly toxic corn as on normal corn. This procedure could be used to salvage corn that would otherwise need to be destroyed.

Crossbred Finnsheep Increase Sheep Productivity

One of the most significant factors affecting sheep production is the number of lambs produced per ewe. With the sheep industry in serious competitive difficulty in relation to other livestock enterprises, greater productivity per ewe is strongly needed. Through a cooperative regional approach a number of the western States are conducting breeding research to improve sheep productivity. Studies are centering on an exotic breed known as Finnsheep which has exceptionally high reproductive capability but has less desirable meatiness, carcass quality and wool productivity. In intensive crossbreeding studies utilizing Finnsheep with typical breeds, researchers have now found that 25% Finnsheep bloodline is optimum for maximizing reproduction and yet retaining the desirable qualities of our present breeds. With this crossbreeding system, producers can increase annual gross income as much as \$10 per ewe. This can mean as much as \$100,000,000* increased annual income to the sheep industry when these research findings are fully utilized.

A Sex Hormone and Cattle Reproductive Efficiency

Recent availability of an inexpensive synthetic sex hormone (prostaglandin F₂ alpha) for experimental investigation raised widespread hope of a practical way to increase efficiency of beef and milk production. The hormone, which occurs naturally in many species of animals, is being intensively studied and developed at Cornell. The hormone can be used to accurately regulate the time at which the female releases an ovum (egg) for fertilization. Such regulation may ultimately be used to increase the average number of calves born each year from the number of breeding cows kept for beef or milk production. Researchers have identified the chemical building block which subsequently becomes prostaglandin F₂ alpha and have shown that at least one additional hormone is required to permit this one to act on the ovary. These achievements are clearing the way toward very promising applications in livestock reproduction.

Beef Crossbreds Increase Production per Cow in the Breeding Herd

Results from a crossbreeding experiment conducted by the University of Nebraska and Agricultural Research Service involving Herefords, Angus, and Shorthorns showed that production-per-cow in the breeding herd can be increased 19 to 27% by combined effects of heterosis on survival and growth of calves, and by maternal heterosis associated with a higher level of reproduction and greater and more persistent milk production of crossbred cows relative to straightbreds. More than half of this advantage is dependent on use of crossbred cows. Livestock producers will benefit directly by greater production per animal in the breeding herd. This research is a part of the cooperative effort conducted under a regional project on improvement of beef cattle through breeding methods.

Hormone Injection Increased Number of Pigs per Litter

A 4-year Missouri study was completed in which injection of hormones increased litter size by more than one pig per litter. Basic mechanisms of ovulation control were also studied, which can lead to methods for reducing the cost of labor and facilities required to produce pork. Implementation of this technology would result in savings of \$140 million annually to the nation's swine industry and could mean lower consumer prices for pork.

Breeding Studies to Improve Aquaculture Profitability

Breeding research techniques commonly applied for livestock improvement are being used to improve production of cultured catfish. Louisiana scientists are selecting the most productive fish strains obtained in crosses of wild catfish. It has already been shown that such domesticated strains can yield 2,000 pounds per acre compared with wild catfish yields of 1,550 pounds. Such improved yields can raise gross income as much as \$315 per acre. This has application primarily in the southern states where commercial catfish farming is prominent.

Computerized Land Use Information System

The growing interest in land use planning and in the spatial implications of economic, social, and environmental policies have generated a need for up-to-date information on parcels of land and land areas, particularly as to present use and suitability for other uses. Researchers at the South Carolina Station have developed a computerized land use information system (CLUIS) which can be accessed by lay users at low costs. It is a cooperative venture with the Conservation Districts of South Carolina and the State Land Resources Conservation Commission.

Genetic Vulnerability and Yield Promoting Genes

Iowa Experiment Station scientists have released "multiline" oat cultivars. Each multiline is a mixture of 7 to 11 lines that have the same agronomic characteristic (height, maturity, etc.), but contains genes conferring resistance to

different races of oat rust fungi. Use of multiline oats promises to overcome the historic pattern of buildup of new virulent strains of rust and provide long-lasting, stable protection against rust epidemics. Also, wild oat lines collected in the Middle East and along the edges of the Mediterranean are providing an infusion of valuable germ plasm into the oat breeding programs. Iowa scientists have discovered some wild oat lines that also contain yield-promoting genes. Yield increases as high as 25-30 percent have been obtained in crosses between certain wild oat lines and adapted, cultivated lines.

Gibberillic Acid Increases Yield of Spinach and Facilitates Harvest

Scientists at the Arkansas Agricultural Experiment Station have shown that treating spinach with small amounts of gibberillic acid two weeks before harvest resulted in a yield increase of 15 to 20 percent. In addition to the yield advantage of using gibberillic acid, the treated plants could be harvested cleaner even if the field was muddy because the plants grew more upright. Another important advantage was that the cutter bar could be raised so that less soil and sand would get into it, reducing wear.

Growth Model, Soybeans

New genetic and cultural factors are being engineered for the soybean crop at the Mississippi Agricultural Experiment Station. A systems analysis model of plant growth incorporating the known causal variables affecting growth and the various measures of actual growth is providing a framework which takes into account soil-water status as a prime control factor in yields. Soybean varieties are becoming increasingly disease-resistant, nematode-tolerant, insect-resistant, and photosynthetically efficient. An accurate model permits research scientists to plan their experiments with greater accuracy and makes it easier to measure accomplishments.

Physiological Criteria for Forage Breeding

A regional research project--Physiological Criteria for Forage, Range, and Pasture Breeding--focuses on locating physiological characteristics that are genetically controlled and to transfer these by breeding. Since progress with traditional breeding methods, which are directed to practical performance characteristics such as yield and pest resistance, has been limited, attention is turning to photosynthetic rate, respiration rate, and similar properties so as to "break out" of the present performance limits. Arizona research has shown that "mitochondrial efficiency," a measure of performance at the subcellular level, seems to be associated with high yields. Breeders may now be able to incorporate many key physiological characteristics into a single outstanding alfalfa plant.

Pest Control and Environmental Quality

Insect Viruses for Orchard Pest Control

Codling moth and redbanded leafrollers are being infected with insect diseases. A number of State experiment stations have cooperated to develop this method of insect control which is fully compatible with other biological methods of orchard pest control.

Host Plant Resistance

Missouri research has shown that gossypol, present in pigment glands of the cotton plant, retards bollworms and lessens loss in quantity and quality of fiber produced. Plantings of a Missouri-developed "high" square gossypol selection were grown at 13 locations in 5 States and Mexico during 1974. This selection is relatively stable in square gossypol content, averaging 1.2 percent or higher. Heavy natural infestations of bollworm or bollworm-tobacco budworm developed at three of these locations. Square damage was 50 to 60 percent less in this high

gossypol selection than in adjacent plantings of normal glanded varieties. This inherent biological trait could reduce use of environmentally-polluting insecticides.

New Mode of Action Insecticides

The interaction of light with certain dye molecules has been shown by Mississippi State biochemists to kill insects. Whereas commonly used pesticides depend on unique chemical structure, the interaction of light and dye molecules provides a different mechanism. Compounds of widely differing structure are expected to interact with light and be effective pesticides. These studies could markedly reduce the need for many pesticides used today.

Low-Cost Method of Handling Animal Wastes

Extensive studies at the Iowa Station have shown that the liquid manure transport system is a practical, laborsaving, and relatively low-cost method to clean confinement units and move swine wastes to treatment facilities. The waste-handling techniques developed and tested also can be adapted to intensive beef and poultry production systems.

Feeding Whey Reduces Pollution Problem

Large quantities of fluid whey are produced each year in New York cheese factories. Although some of it can be used in other food products, most is discarded as waste or must undergo a costly drying process to convert it into a utilizable form. Cornell animal nutritionists have shown in a feeding experiment on 60 beef bulls that liquid whey could be used to supply all the water they require and provide some of the nutrients which otherwise would have come entirely from the solid portions of the complete diet. The whey diets were fed for 175 days. Results of this work are immediately applicable to some cost reduction and pollution problems of the dairy industry provided animal feeding facilities are located near the cheese factory to overcome whey transportation costs.

Marketing and Utilization

Gin Storage of Lint Cotton as a Means of Reducing Marketing Costs

The Louisiana Agricultural Experiment Station has completed a study to determine the extent to which marketing costs can be reduced if combination gin-warehouse facilities were used in the State compared with the conventional system (i.e., separate gin and warehouse facilities) currently in use. The gin-warehouse system using plastic bale wrapping had processing costs savings of \$3.76 per bale when compared with the conventional system of processing cotton lint bales. At this rate the total savings per gin warehouse at a volume of 18,482 would amount to \$69,492 annually. If the new system is widely adopted, these savings could be of considerable significance to the cotton industry. Also, much of these savings could be passed on to the cotton producers in the form of lower charges.

Computerized Apple Marketing Aids

Apple producers in the State of Washington needed an integrated scientific basis for making the major marketing decision required at the beginning and during each marketing year. Station scientists developed a price-prediction equation which was quite effective and which could help the producer by predicting price changes. The study also indicated that returns could be increased by more controlled atmosphere storage of apples, by selling more of the leading varieties (red delicious, golden delicious, and winesaps), and by marketing bagged apples rather than the same size groups packed loose or in tray-packs.

Multiple Car Rail Rates

Grain elevator operators in Minnesota asked about the economics of building multiple car loading facilities. To answer their questions the University of Minnesota surveyed 19 multiple-car loading elevators and subterminals in southern Minnesota in 1974. Before multiple car rates were introduced in 1972, most of Minnesota's exported corn and soybeans moved by truck to Mississippi River terminal elevators and from there to the Gulf of Mexico by barge. However, the new multiple car rates made rail shipments to the Gulf attractive. To ship grain by 50-car unit trains from southeastern Minnesota to the Gulf would cost about 54.5¢/CWT. compared with 74¢/CWT. in a single car shipment. The study outlines economic criteria for investment in multiple car loading facilities, including disadvantages. Prospects are for a continued growth in multiple-car rail shipments.

Refrigerated Bulk Storage of Cranberry Puree

Conversion of fruits and vegetables into purees for bulk storage and subsequent processing is a recent innovation in the food industry. Since a major bottleneck in the cranberry industry is the need for a method of efficiently storing the fruit until the rush of the harvest season is past, Wisconsin food scientists developed a method for converting cranberries into a stable puree that may be held in bulk storage for up to six months at 4°C with a flowing overlay of gaseous carbon dioxide. Inactivation of the pectinase enzymes was found to be very important.

Total Plant Utilization

About 20 to 30 percent of the vegetable plant reaches the processing or packing plant, at which point from 30 to 90 percent of the material may be processed for human consumption. The remainder creates a waste disposal problem. To solve this problem and to more fully utilize the entire vegetable plant as food, feed, and other useful by-products, Maryland food scientists have undertaken an extensive program aimed at total plant utilization. For example, it was found that an acre of tomatoes produced a total weight of about 50 tons of vegetable plant material. The 30 tons of tomato vines normally left in the field were found to contain 16 percent protein. A relatively simple procedure was developed using the vines whereby a "tomato protein concentrate" was extracted, and the residual cake still contained sufficient protein to make it a more valuable feed than corn. In addition, an alkaloid, "tomatine" useful as a cholesterol precipitating drug and as an insecticide, is recovered in substantial quantities.

Light Transmission Measures Pork Quality

Studies at Nebraska have shown that light transmission values can be used as an indicator of the eating quality of pork. Boneless loin chops were analyzed for moisture by conventional methods and scores were obtained for percent light transmission, and other measurements. Significant correlations were observed between light transmission and usual measures of quality. Light transmission is a rapid test that could enable processors to provide the housewife with more uniformly high quality meat.

Meat Tenderization

Until quite recently, very little was known about the process of meat tenderization which occurs during postmortem aging of meat. But recently, the Iowa Agricultural Experiment Station scientists discovered an enzyme that degrades Z-lines (a normal structural element of muscle fibers) during postmortem aging. As Z-lines disintegrate, the tenderness of meat increases. The scientists are studying the properties of the Z-line degrading enzyme and learning how to control its activity. Eventually, they hope to use this knowledge to develop improved meat processing methods that result in faster, more complete, and more uniform tenderization.

Rail Abandonment Effects

The U. S. Department of Transportation report that resulted from the Northeast Rail Reorganization Act of 1973 designates 7500 miles or 30 percent of the rail lines in the major grain producing States, Illinois, Indiana, and Ohio, as potentially excess. Because of controversy over the impact that rail abandonment would have on shippers, local communities, and other carriers, the Illinois Agricultural Experiment Station conducted research to determine what the impact was on two different communities that had earlier suffered rail abandonment. In Case I, a 95-mile section from Iowa to Illinois, the shippers were relatively near the Mississippi River and had access to truck - barge combination. The Case II region, a 14-mile section in Iowa, is far enough inland so that truck - barge shipment of grain is normally not a viable alternative to rail transportation. In general, the rail abandonment in the Case I region had only a minor impact on grain elevators, but it did reduce their ability to compete in interior distant markets. The impact on grain elevators in the Case II region was substantial. It was most noticeable in the relative decrease in grain shipments, in smaller capital expenditures for plant and equipment, and in decrease in employment by elevators losing rail service when compared with elevators retaining services.

Human Nutrition, Health, and Safety

Consumer Reaction to Textured Vegetable Protein in Beef

Widespread consumer acceptance of blended beef, ground beef containing 25 percent textured vegetable protein, could have important implications for both the meat and vegetable protein industries and a significant impact on human nutrition and food expenditures. The Texas Agricultural Experiment Station completed a study to determine consumer reaction to blended beef. Price was the overwhelming reason given by consumers for purchasing it. Eighty-three percent cited this reason. The usual price differential between blended beef and hamburger was about 10¢ per pound. The differential between blended beef and lean ground beef was about 30 to 35¢ per pound. Also, consumer reaction indicated that for most purposes, blended beef was an excellent substitute for all-meat ground beef and hamburger. About 75 percent of first-time users planned to purchase blended beef again. During the period of the survey, blended beef gained about 25-30 percent of the total ground beef market in the stores where it was available.

Special Dietary Dairy Products

Acceptable dairy products with significantly reduced sodium content have been shown useful in the diets of renal patients by University of Minnesota food scientists. The low sodium cheeses were produced by replacing up to two-thirds of the added salt with potassium chloride. Further work has shown that salt-free whey may be used in producing an acceptable ice cream found to be very satisfactory in feeding 2- to 12-year old renal patients.

Environmental Contaminant Affects Nutritional Requirements

Polychlorinated Biphenyl (PCB), a by-product of manufacturing processes, is widely disseminated in the environment and is known to be toxic for animals. New York State scientists have now discovered a new damaging effect of this chemical. Although low-level PCB may not cause toxic effects, it will interfere with normal use of dietary selenium. Exposed animals thus are susceptible to selenium deficiency disease unless adequate dietary levels are supplied. This finding provides additional information on the complex effects which may result in animals exposed to environmental contaminants. Research is continuing on ways to prevent harmful effects of PCB in animals and on methods for excluding the chemical from agricultural food products.

Housing and Rural Development

Housing Concerns of Low Income Families

"A home of one's own" had a very high priority among the 1600 low-income families interviewed in Georgia, Texas, and Virginia under a southern regional research study. Almost three-fourths of these families with a median income of approximately \$5,000 owned their own home. Virtually all had made improvements and many planned to make more. Contrary to popular opinion, most of these low-income households were small (57 percent were comprised of two or three persons) and a large proportion of household heads were in the older age bracket (43 percent were 55 years of age or older).

Rural Parents Want Help

Parents living in low-income, rural counties in Ohio want information about discipline, character-formation and personality development of their young children according to Ohio State University researchers. "Setting rules and regulations" was the item which parents checked most often on a list of child-rearing information needs. Dealing with the sexual growth of children and helping children to develop self-control were the next two most important areas of expressed need. Fathers also indicated a strong need for information on how to tell children about death. The most preferred media through which parents would like to receive child-rearing information were pamphlets and newsletters. Group study and discussion ranked second and third as preferred methods.

Low Income Mothers Need Help with Child Rearing

Mexican American mothers and their young children have convinced home economists at New Mexico State University that a program of family-living consultant services has lasting beneficial effects. During visits by "family-living consultants" mothers were assisted in learning home management skills and ways to interact with their children to promote learning. Researchers followed these families over a subsequent four-year period. The findings show that Mexican-American children have become more outgoing and willing to cooperate with others. The mothers have begun to see themselves as important individuals, who can have a meaningful influence on their children's development. Children in families where mothers and others in the family talked frequently to them scored higher on language tests than others. Information on the kinds of problems encountered by families in poverty and their responses to family-living consultant services will assist planners in their efforts to improve quality of rural life.

MCINTIRE-STENNIS ACT

Improved Forest Trees

Genetics work at the University of Georgia has produced a hybrid of the southern pines that grows at the rate of 6.0 feet per year, 300 percent over the average height growth of loblolly pine. The University places the value of this superior seed at \$12,000 per pound. These researchers have also developed a variety of loblolly pine that is growing at the rate of 4.3 cords per-acre per-year at 15 years in the field. This is a 330 percent increase over average rate for Piedmont and Coastal Plain loblolly pines. Approximately 127,000 acres of trees were planted in Georgia in FY '74. If this improved variety of tree had been available for use on this area, the resulting increase in growth would be 381,000 cords per year. Genetic improvement of American walnut, one of our fine cabinet woods currently in very short supply, is being carried out at Purdue University. Early indications are that these newly developed trees will grow 20 to 30 percent

faster than average rates in height and diameter, and that they will reach a diameter of 18 inches in about 40 years versus the 60-70 years required for natural trees of the same size. The Indiana Division of Forestry has established a grafted seed orchard based upon the Purdue testing that produces 600-700 thousand seedlings per year, enough to plant 2,000 acres per year.

Fertilization Improves Forest Production

University of Florida scientists have found growth gains from fertilization of slash pine to be substantial - 10 to 50 percent from phosphate fertilizers in new plantings and 15 to 20 percent from nitrogen in older plantings. Some 300,000 acres have been fertilized to date with expected financial yields on fertilizer investments before taxes ranging from 12 to 29 percent. If applied annually to 247,000 newly planted acres (at a 1973 cost of \$20.80 per acre) with harvesting 20 years after planting, the present worth of the net gain in timber values would be \$233,500,000. The direct costs of the research to the University and the industry cooperators since 1968 carried forward to the present at compound interest totals \$3,594,000. A discount rate of 6.9 percent as suggested by the National Water Commission for evaluation of Federal resource development projects was used. On this basis, the benefit/cost ratio of this research would be 233.5 million/3.594 million = 65 to 1.

Sex Attractant Helps Trap Forest Beetles

Scientists at the State University of New York have discovered the chemical nature of the sex attractant (pheromone) produced by the European elm bark beetle. They have been able to synthesize this chemical which will offer a means of trapping the bark beetles before they invade adjacent elm trees. Studies with pheromones are also being carried out at Texas A&M University in connection with southern pine beetle research. The use of pheromones will provide a technique for the control of destructive insects without the adverse environmental effects associated with some insecticides.

Remote Sensing in Forestry Evaluation and Planning

Satellite imagery produced by ERTS-1 and Skylab has been tested and found adequate for measuring timber volumes and stand condition class by scientists at the University of California, Berkeley. This new method of inventory produces significant savings in cost and time over the conventional methods of timber inventory. Also, Colorado State University researchers have combined several remote sensing methods to determine their use capabilities in land inventory and are making progress towards computer-generated maps that will show planners current and potential land uses.

Bark Used in Particleboard

Waste tree bark has been a problem to the industry for several decades. Annual production of bark in the Douglas-fir region of the Northwest is approximately 1.5 million tons. Projects at the University of California, Berkeley, have shown a potential for bark in the production of particleboard both as a raw material and as a bonding agent to substitute for expensive resins. Research has produced a yield of 350 pounds of extract per ton of Douglas-fir bark containing 70 percent reactive phenolic compound. Current prices for phenolic resins translate to an approximate value of \$50 for the extract from one ton of bark. Economic analyses and process design refinements required are in further study.

Forests Help Filter Sewage Water

Phosphorus is not removed in ordinary sewage treatment methods and its presence in lakes and streams contributes to undesirable growth of aquatic plants. Research at the Connecticut Agricultural Experiment Station, New Haven, has shown that disposal of sewage treatment plant waste water by irrigating forest soils provides a means of removing the phosphorus from the waste water without further treatment. Studies

at the Pennsylvania State University have shown that aspen trees irrigated with sewage effluent reach marketable size 12 to 14 years sooner than aspen not irrigated. Similar work at the University of Missouri on the use of forests as natural filters for recycling sewage effluent has been used by the National Park Service in designing waste disposal systems at four major campgrounds in the Ozark National Scenic Riverways System.

New Wood Waste Burner

The University of Kentucky designed a modified teepee burner for disposing of industrial wood wastes which met the State air pollution control standards. This modification has been adopted by 30 wood using industries at an average cost of \$6,500 per installation. The Air Pollution Control Commission engineers had recommended installing water scrubbing systems at \$25,000 each. The University designed modification resulted in a saving of \$550,000 to local industry. The cost of research on waste burner design modifications at the University of Kentucky was \$10,000.

SPECIFIC RESEARCH GRANTS (Public Law 89-106)

Management of Lygus Bugs in the Agro-Ecosystems

Research in California has shown that the critical timing of one insecticide application for safflower lygus bug control will eliminate the need for two or more applications for control of this pest on cotton later in the season. This results in a savings in overall lygus bug control, but more importantly, it reduces the possibility of pest upsets in cotton, e.g., bollworm, cabbage looper, spider mites, etc., which would require even greater insecticide use. The researchers have expanded this study by developing a time-prediction model for lygus treatment on safflower to prevent lygus from invading cotton.

Pest Management for Seed Potatoes in Idaho

Green peach aphid numbers and the virus disease of potatoes vectored by green peach aphids have been dramatically reduced by a pest management program. The program consists of the removal or treatment of winter host trees and use of regulatory procedures to prevent distribution of the aphid infected bedding plants. The program appears to be a resounding success and may ultimately effect a savings of \$4 million per year to the Idaho potato industry.

Alfalfa Yield and the Alfalfa Weevil

Research at the Kentucky Station on alfalfa reaction to insect load showed that at low densities alfalfa weevil population pressure stimulated plant growth to over-compensate for weevil feeding, producing yields which were higher than those for non-infested alfalfa. The factors of growth compensation and morphological change by the alfalfa plant to herbivore load are important considerations in determining pest population levels and control measures.

Ecological Studies Using Ephemeroptera (Mayflies)

Scientists at Florida A&M University have been studying mayflies and other aquatic insects for several years. The purpose of the research is to obtain information on the effect of agricultural run-off (silt, chemicals, etc.) on the fishing and other recreational uses of streams and lakes. In effect, mayflies and other aquatic insects are being used as biological indicators of the extent of stream pollution. The intensive investigation of mayfly biology and ecology is also revealing the role mayflies play in decomposing stream particulate matter. Some mayflies are collectors in that they scrape or eat partially decomposed leaves and other such materials. Recently, a mayfly shredder has been discovered which

eats larger and less decomposed chunks of forest and stream material. Thus, it has been demonstrated that the absence of specific species of mayflies is not only an indicator of stream pollution but also the normal decomposition of indigenous particulate matter is disrupted.

Peach Trees as Ornamentals and Commercial Producers

The breeding of ornamental peaches to enhance rural and urban environments was a project conducted at Tennessee State University to develop peach trees which bear fruit well and which also can be used as ornamental plants. Tennessee State University scientists have released two varieties of peaches -- Early Ruth in 1972 and Early Julie in 1974. These trees mature in three years as do normal peach trees and have the added desirable characteristic of not blooming during a temporary warm spell in the late winter. The peach itself matures in 45 days after flowering. The ability to endure a high number of hours of cool weather before blooming and the short growth to maturity of the peach theoretically expands its geographical or ecological adaptability both northward and southward. It is estimated that a small farmer in Tennessee could profitably cultivate 15 acres of these trees.

Study Results Giving Direction to Nutrition Programs

Obesity and anemia are two nutritional problems in Missouri according to the results of a nutrition survey recently completed by scientists at Lincoln University. Information was collected from a statistical sample of 2,000, representative of the population of the State. Obesity was prevalent in women and anemia in both men and women and also in the 2-5 year old age group. Additional information has been gathered from a low-income population of pregnant women and a group participating in the Expanded Food and Nutrition Program, including teenagers. The results of the surveys are being used in extension and nutrition education programs. Additionally, the education programs are under study for their effectiveness in improving nutritional status.

Rural Residents Prefer Benefits of Open Country

Ten rural low income counties in West Tennessee were characterized by changes in population, income, employment, educational attainment, and agriculture. Information on family characteristics was collected from more than 1,000 families who lived in communities in the counties. About 14% of the adults were farming, 50% had off farm jobs, and 7-1/2% were listed as employed in miscellaneous categories. Also, all residents in the open country (not living in towns) indicated that they preferred living in the open country because of the freedom of movement, quietness, and open space. Lack of good roads and recreation facilities were frequently mentioned as a disadvantage to living in a community. Many families produced part of their family food requirements. A significant number of adults were interested in learning skills through attending workshops or short courses in the community. The survey results are being used to develop programs to improve the economic well-being of these rural areas.

EXTENSION SERVICE

Purpose Statement

Cooperative agricultural extension work was established by the Smith-Lever Act of May 8, 1914, as amended. The legislation authorizes the Department of Agriculture to give, through the Land-Grant Colleges, instruction and practical demonstrations in agriculture and home economics and related subjects and to encourage the application of such information by means of demonstrations, publications, and otherwise to persons not attending or resident in the colleges.

The basic job of the Cooperative Extension Service is to help people identify and solve their farm, home, and community problems through use of research findings of the Department of Agriculture and the State Land-Grant Colleges, and programs administered by the Department of Agriculture.

State and county extension work is financed from Federal, State, County, and local sources. These funds are used within the States for the employment of county agents, home economics agents, 4-H Club agents, State and area specialists, and others who conduct the joint educational programs adapted to local problems and conditions.

The Extension Service, as a partner in the cooperative effort, has three major functions:

1. Serves as liaison between the Department of Agriculture and the State extension services, provides program leadership and assistance to the States in the conduct of Extension work.
2. Administers Federal laws authorizing Extension work and coordinates the work among the States.
3. Provides leadership for the educational phases of all programs under the jurisdiction of the Department.

This work is carried out through State and County Extension offices in each State, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia. The program is coordinated by an Extension Service staff of Federal employees located in Washington, D.C. In addition, the Extension Service has two specialists located at Memphis, Tennessee to provide special emphasis on cotton.

Available Funds and Man-Years

1975 and Estimated, 1976 and 1977

Item	Actual		Estimated		Budget Estimate	
	1975		Available 1976		1977	
	: Man- :		: Man- :		: Man- :	
	Amount	Years	Amount	Years	Amount	Years
Extension Service.....	\$215,523,000:	207	\$228,935,000:	219	\$218,790,000:	215
Obligations under other	:	:	:	:	:	:
USDA Appropriations:	:	:	:	:	:	:
Soil Conservation Service	:	:	:	:	:	:
for Resource, Conserva-	:	:	:	:	:	:
tion and Development....	296,000:	--	240,000:	--	240,000:	--
Total, other USDA	:	:	:	:	:	:
Appropriations.....	296,000:	--	240,000:	--	240,000:	--
Total, Agriculture	:	:	:	:	:	:
Appropriations.....	\$215,819,000:	207	\$229,175,000:	219	\$219,030,000:	215
Other Federal Funds.....	1,007,720:	4	5,345,000:	4	345,000:	4
Non-Federal Funds.....	1,413,910:	--	1,210,000:	--	1,210,000:	--
Total, Extension Service...	\$218,240,630:	211	\$235,730,000:	223	\$220,585,000:	219

End-of-Year Employment:	1975	1976	1977
	<u>Actual</u>	<u>Estimated</u>	<u>Estimated</u>
Permanent full-time	197	185	185
Other	11	17	12
Total	208	202	197

EXTENSION SERVICE

Appropriation Act, 1976.....	\$228,935,000
Budget Estimate, 1977.....	<u>218,790,000</u>
Decrease in Appropriation.....	<u>\$-10,145,000</u>

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	<u>1976</u>	<u>Increase or Decrease</u>	<u>1977 Estimate</u>
Payments for Cooperative Agricultural Extension Work:			
Cooperative Extension work under Section 3(b) and 3(c) of the Smith-Lever Act (including 4% Federal Administration).....	\$130,671,000	+\$ 2,071,000	\$132,742,000
For Retirement and Employees' Compensation Fund Costs.....	15,841,000	+ 136,000	15,977,000
For Nutrition Education Program....	50,560,000	-10,170,000	40,390,000
For 1890 Land-Grant Colleges and Tuskegee Institute.....	7,823,000	+ 77,000	7,900,000
For Rural Development.....	1,000,000	- 1,000,000	--
For Title V, Rural Development.....	1,500,000	- 1,500,000	--
GSA Space Rental Costs.....	299,200	+ 13,000	312,200
Pay Cost Increase, effective in fiscal year 1976.....	--	+ 228,000	228,000
All Other.....	<u>21,240,800</u>	<u>--</u>	<u>21,240,800</u>
Total Available.....	\$228,935,000	\$-10,145,000	\$218,790,000

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	: 1975	: 1976 (Estimated):	: Increase or Decrease	: 1977 (Estimated)
1. Payments to States, Puerto Rico, Guam, and the Virgin Islands:	:	:	:	:
(a) Cooperative Agricul- tural Extension Work under Sections 3(b) and 3(c) of Smith-Lever Act:	:	:	:	:
(1) Program	\$117,684,636:	\$127,884,960:	+\$ 1,988,160	:\$129,873,120
(2) Set aside for Federal Administra- tion (4%).....	2,400,040:	2,786,040:	+ 82,840	2,868,880
Total.....	\$120,084,676:	\$130,671,000:	+\$ 2,071,000(1)	:\$132,742,000
(b) Retirement and em- ployees' compensation fund costs for exten- sion agents.....	14,911,000:	15,841,000:	+ 136,000(2)	15,977,000
(c) Penalty Mail for Extension Agents and Extension Directors....	10,417,364:	11,245,000:	--	11,245,000
Subtotal.....	\$145,413,040:	\$157,757,000:	+\$ 2,207,000	:\$159,964,000

Project	1975	1976 (Estimated)	Increase or Decrease	1977 (Estimated)
(d) Payments under Section 3(d) of Smith-Lever Act:				
(1) Nutrition and Family Education Program.....	\$ 50,560,000	\$ 50,560,000	\$-10,170,000 (3)	\$ 40,390,000
(2) Grants to 1890 Land-Grant Colleges and Tuskegee Institute..	6,449,846	7,823,000	+ 77,000 (4)	7,900,000
(3) Rural Development..	1,000,000	1,000,000	- 1,000,000 (5)	--
(4) Pest Management....	1,735,000	2,935,000	--	2,935,000
(5) Farm Safety.....	765,000	1,020,000	--	1,020,000
Subtotal.....	\$ 60,509,846	\$ 63,338,000	\$-11,093,000	\$ 52,245,000
(e) Cooperative Marketing Extension Work under the Agricultural Marketing Act.....	1,449,962	--	--	--
(f) Cooperative Extension Work in the District of Columbia:				
(1) Program.....	560,000	873,600	--	873,600
(2) Set aside for Federal Administration (4%).....	34,400	36,400	--	36,400
Total.....	\$ 594,400	\$ 910,000	--	\$ 910,000
(g) Extension Education Program under Rural Development Act, Title V:				
(1) Program.....	\$ 1,440,000	\$ 1,440,000	\$- 1,440,000	--
(2) Set aside for Federal Administration (4%)..	60,000	60,000	- 60,000	--
Total.....	\$ 1,500,000	\$ 1,500,000	\$- 1,500,000 (6)	--
Total, Payments to States, Puerto Rico, Guam, and the Virgin Islands.....	\$209,467,248	\$223,505,000	\$-10,386,000	\$213,119,000
2. Federal Administration and Coordination (Direct Appropriation).....	\$ 5,366,677	\$ 5,430,000	\$+ 241,000 (7)	\$ 5,671,000
Unobligated Balance.....	689,075	--	--	--
Total Available or estimate.....	\$215,523,000	\$228,935,000	\$-10,145,000	\$218,790,000

EXPLANATION OF PROGRAM

Extension education programs, authorized under the Smith-Lever Act, as amended are carried out through a unique working relationship between the Department of Agriculture and the States and local governments. It is administered and coordinated nationally by the Department of Agriculture through the Extension Service and conducted by the land-grant institutions in each of the 50 States, Puerto Rico, the District of Columbia, Guam, and the Virgin Islands. .

Through this system, significant research findings of the Department of Agriculture, the State land-grant institutions and other publicly-supported research

agencies relating to Agriculture, Forestry, and Natural Resources; Community Resource Development; Home Economics; 4-H & Youth Development; and other related subjects are transformed and organized into effective programs for instruction and practical demonstrations to persons not attending or resident in the colleges.

Agriculture, Forestry, and Natural Resources - Approximately 38.7 percent of the total man-years for Cooperative Extension work in fiscal year 1975 was used for this program. Primary program objectives are designed to contribute to an adequate supply of food and fiber with equitable returns to Americans engaged in agriculture, forestry, and related industries; help farmers and others adjust to environmental quality and food safety standards and regulations, and initiate and conduct pest management programs to promote effective, economical, and environmentally sound integrated methods of controlling pests.

Community Resource Development - This program is devoted primarily to helping people give group consideration to community problems. Approximately 7.6 percent of the total man-years for Cooperative Extension Work was used for this program in fiscal year 1975. Primary areas of concern include organization and leadership development; land-use and other comprehensive planning, community facilities and services; economic development; recreation and tourism; taxation and local government; and manpower development.

Home Economics - Approximately 21.5 percent of the total man-years for Cooperative Extension work in fiscal year 1975 was used for this program primarily designed to provide education to enhance the quality of family living covering such areas as food and nutrition; housing and home environment, textiles and clothing; family resource management and consumer education; individual and family relationships; health and safety, and family/community relationships.

4-H - Youth - Designed to help youth from all racial, ethnic, socio-economic backgrounds -- rural and urban -- develop life skills through participation in 4-H Clubs, 4-H special interest groups, instructional 4-H TV series, and special 4-H nutrition education programs. Approximately 32.2 percent of the total man-years for Cooperative Extension Work for fiscal year 1975 was used for this program. Major objectives of 4-H are to assist youth in learning skills and attitudes for more productive living including exploring career and job opportunities; personal growth and development; community development and environmental improvement; leadership development; and the involvement of youth as responsible citizens in their communities, States and country.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$2,071,000 for maintaining efficient operations in the States consisting of:

- (a) An increase of \$1,988,160 to assist states in strengthening high priority programs in such areas as commercial agriculture, family resource management, and rural community development.

Need for increase: Energy conservation needs, environmental concerns and requirements, and financial management affecting agriculture and family living have required major adjustments in basic programs. This increase is requested to assist the States to meet these high priority needs without reducing ongoing efforts in food and fiber production, family education, 4-H youth, and community resource development.

- (b) A net increase of \$82,840 for Federal Administration and Coordination (\$2,786,040 available in 1976).

Plan of Work: Under Section 3(c) of the Smith-Lever Act, 4% of increases in appropriation after 1962 are allocated for administration, technical and other services, and for coordinating extension work. This increase would provide for the financing of pilot projects in selected areas, development of materials for national use and evaluation of ongoing programs. This increase will not be used for additional staff for the Extension Service.

- (2) An increase of \$136,000 for retirement and employees' compensation costs for extension agents (\$15,841,000 available in 1976).

Need for increase: Cooperative extension agents are joint employees of the USDA and the cooperating land-grant institutions. They hold appointments under Civil Service Commission Regulation A-6, III(a) (1). Such appointments place them under the provisions of the U.S. Civil Service Retirement Act, with employee contributions and benefits based on total salary received from cooperating partners. The employer's contribution to the Federal Retirement Fund, to match contribution of these agents, is provided by Federal appropriation to the Extension Service.

Plan of Work: This increase would provide necessary funds to match the increasing contributions of the cooperative extension agents resulting from salary increases. These funds also include an additional \$24,529 needed to reimburse the Department of Labor Employees' Compensation Fund for costs incurred for extension agents receiving compensation benefits under the U.S. Employees' Compensation Act. \$291,754 is currently available for these costs.

- (3) A decrease of \$10,170,000 in the Expanded Food and Nutrition Program.

Need for decrease: The Expanded Food and Nutrition Program (EFNEP) was initiated in FY 1969 to provide low-income families with improved nutritional knowledge and practices necessary to maintain adequate diets. Also, the program has been used to encourage family participation in the Food Stamp and Food Distribution Programs and the more effective use of foods obtained through these programs.

Although studies of the program indicate some improvement in the nutritional knowledge and practices among participating families, these studies are inconclusive in showing that improved nutritional habits are retained by families over the long term, and that measured improvements in the percent of families having adequate diets increased from 9 percent to 25 percent after 2 1/2 years. In addition, the program has reached only about 1 million families in an in-depth nutrition education program at a cost of about \$230 million through FY 1975. Even at the current funding level the program reaches approximately 300,000 families per year out of the 5,500,000 eligible families in poverty as defined in the 1970 Census.

This lack of conclusive documented accomplishments, the limited number of participants and the Department's current review of the overall feeding programs justify the proposed reduction until a higher program level can be justified on the basis of results.

In addition, it should be noted that about \$89 million in State and Federal funds are made available each year for home economics work including nutrition education other than EFNEP. States are of course free to devote additional resources to this work should they believe that local conditions justify such action.

Plan of Work: Efforts at the State and Federal levels will continue to improve the efficiency and effectiveness of the program by encouraging the uniform graduation of participating families from the program, and by improving techniques for evaluation of program results.

- (4) An increase of \$77,000 for grants to 1890 Land-Grant Colleges and Tuskegee Institutes (\$7,823,000 available in 1975 -- see discussions under (1) (a)).
- (5) A decrease of \$1,000,000 for rural development programs funded under section 3(d) of the Smith-Lever Act.
- (6) A decrease of \$1,500,000 for rural development programs funded under Title V of the Rural Development Act of 1972.

Need for decrease (items (5) and (6): Activities similar to the programs carried out under these funding provisions are currently performed by the States using formula funds. These reductions will eliminate administrative overhead at the Federal, State, and local levels required for specifically earmarked programs. In addition, the

authorizing legislation to conduct rural development programs under Title V of the Rural Development Act of 1972 expires on June 30, 1976.

(7) A net increase of \$241,000 for Federal Administration and Coordination (\$5,430,000 available in 1976) consisting of:

(a) An increase of \$228,000 for pay increases that became effective October, 1975.

(b) An increase of \$13,000 for space rental costs.

Under current procedure, the Agency is required to budget for the cost of agency occupied GSA controlled space. The 1976 Appropriation Act limited the Department to paying less than the standard level user charges which were developed from comprehensive market surveys in all standard metropolitan statistical areas and in randomly selected rural areas. We believe that the rates which were developed as a result of the survey properly reflect approximate commercial charges for space and services as required by PL 92-313.

** ** *

The following table summarizes the total funds available for Federal Administration for the Extension Service:

	<u>FY 1975</u>	<u>FY 1976</u>	<u>Increase or Decrease</u>	<u>FY 1977 Estimate</u>
Set aside (4% of funds appropriated under Section 3(b) and 3(c) of Smith-Lever Act....	\$2,400,040	\$2,786,040	\$+ 82,840	\$2,868,880
Set aside (4% of funds for payments to District of Columbia	34,400	36,400	--	36,400
Set aside (4% of funds for Rural Development, Title V).....	60,000	60,000	- 60,000	--
Direct appropriation....	<u>5,375,000</u>	<u>5,430,000</u>	<u>+241,000</u>	<u>5,671,000</u>
Total	<u>\$7,869,440</u>	<u>\$8,312,440</u>	<u>\$+263,840</u>	<u>\$8,576,280</u>

PAYMENTS TO STATES, PUERTO RICO, GUAM, AND THE VIRGIN ISLANDS

Federal funds available for fiscal year 1976 under the appropriation "Payments to States, Puerto Rico, Guam, and the Virgin Islands" for cooperative agricultural extension work under the Smith-Lever Act, the D.C. Public Post-secondary Education Reorganization Act, the Rural Development Act of 1972 Title V, Retirement and Employees' Compensation fund costs, and Penalty Mail total \$223,505,000. Funds available for fiscal year 1977 are estimated at \$213,119,000.

Payments to States, Puerto Rico, Guam, and the Virgin Islands are made directly to designated offices and the funds are disbursed by them in accordance with budgets and programs of work submitted by the State directors of Extension work and approved by the Administrator of the Extension Service on behalf of the Secretary of Agriculture. As reflected in Table III, about 39 percent of the cost of Extension work at present is being financed from Federal sources and about 61 percent from State and local sources.

The funds are used by the States for the employment of Extension workers to carry on Cooperative Agricultural Extension work. Paid Extension workers are assisted by volunteer leaders who cooperate in carrying out Extension programs.

The use of these funds is indicated in greater detail in the following tables: Table I reflects estimated allotments to the States, Puerto Rico, Guam, and the Virgin Islands under the formula provisions of Section 3(b) and 3(c) of the Smith-Lever Act. Supplementary Tables 1A, 1B, 1C, and 1D reflect the estimated allotments for Nutrition Education, payments to the 1890 Land-Grant Colleges and Tuskegee Institute, payments for rural development under Section 3(d) (Non-formula) of the Act, and payments for rural development extension education under the Rural Development Act, Title V. Table II shows the basis on which the allotments will be made and the extent to which they must be matched by State and local sources. Table III indicates the sources of funds allotted for Cooperative Extension Work in the States, Puerto Rico, Guam, and the Virgin Islands for fiscal year 1976. Table IV indicates the various classes of field agents employed with Extension funds.

Table I

APPROPRIATION FOR PAYMENTS TO STATES, STATE ALLOTMENTS, FY 1976 - 1977

Smith-Lever Act: Sections 3(b) and 3(c) ²	FY - 1976	Inc. or Dec. FY 1977	Total Proposed for FY 1977
Alabama	\$ 3,718,147	\$ 42,911	\$ 3,761,058
Alaska	425,173	9,837	435,010
Arizona	803,399	14,870	818,269
Arkansas	3,049,761	37,423	3,087,184
California	3,377,676	50,802	3,428,478
Colorado	1,282,298	22,284	1,304,582
Connecticut	932,801	18,784	951,585
Delaware	517,836	10,749	528,585
Florida	1,847,861	33,240	1,881,101
Georgia	4,012,104	49,621	4,061,725
Guam	394,112	8,450	402,562
Hawaii	620,449	9,920	630,369
Idaho	1,108,474	20,876	1,129,350
Illinois	4,256,983	74,287	4,331,270
Indiana	3,740,702	68,384	3,809,086
Iowa	3,963,399	72,257	4,035,656
Kansas	2,424,048	40,467	2,464,515
Kentucky	4,280,265	64,905	4,345,170
Louisiana	2,640,996	35,828	2,676,824
Maine	978,187	16,651	994,838
Maryland	1,475,263	26,509	1,501,772
Massachusetts	1,200,776	21,911	1,222,687
Michigan	3,904,607	66,624	3,971,231
Minnesota	3,749,298	67,929	3,817,227
Mississippi	3,918,285	44,692	3,962,977
Missouri	3,889,577	60,887	3,950,464
Montana	1,050,894	19,757	1,070,651
Nebraska	2,140,695	37,713	2,178,408
Nevada	432,880	9,568	442,448
New Hampshire	644,508	12,985	657,493
New Jersey	1,172,492	21,973	1,194,465
New Mexico	894,733	15,408	910,141
New York	3,747,022	63,103	3,810,125
North Carolina	5,887,551	82,467	5,970,018
North Dakota	1,499,084	26,530	1,525,614
Ohio	4,730,248	79,651	4,809,899
Oklahoma	2,630,316	35,518	2,665,834
Oregon	1,483,239	26,882	1,510,121
Pennsylvania	4,698,307	76,834	4,775,141
Puerto Rico	3,943,888	52,997	3,996,885
Rhode Island	438,396	9,485	447,881
South Carolina	2,991,845	37,402	3,029,247
South Dakota	1,525,386	27,855	1,553,241
Tennessee	4,269,495	60,121	4,329,616
Texas	6,017,990	76,006	6,093,996
Utah	717,183	12,923	730,106
Vermont	742,963	14,290	757,253
Virginia	3,542,099	50,035	3,592,134
Virgin Islands	380,845	8,222	389,067
Washington	1,787,297	31,293	1,818,590
West Virginia	2,087,246	28,166	2,115,412
Wisconsin	3,748,793	67,597	3,816,390
Wyoming	622,179	12,281	634,460
Subtotal	\$126,340,051	\$ 1,988,160	\$128,328,211
Special Need Funds, Section 3(b) Smith-Lever Act	1,544,909	--	1,544,909
Retirement and Employees' Compensation Costs	15,841,000	136,000	15,977,000
Penalty Mail Costs (for Extension Agents & Directors)	11,245,000	--	11,245,000
Federal Admin. & Coord., Sec. 3(c)1 Smith-Lever Act:	2,786,040	82,840	2,868,880
Funds for Allocation, Section 3(d) Smith-Lever Act:			
Expanded Nutrition Program 1/	50,560,000	-10,170,000	40,390,000
1890 Land-Grant Colleges & Tuskegee Institute 2/	7,823,000	77,000	7,900,000
Rural Development 3/	1,000,000	- 1,000,000	--
Pest Management	2,935,000	--	2,935,000
Farm Safety	1,020,000	--	1,020,000
Extension Work under D.C. Public Postsecondary Education Reorganization Act, including Federal Administration	910,000	--	910,000
Title V, Rural Development Act Funds 4/	1,500,000	- 1,500,000	--
Total, S-L, D.C., & Title V of RD Act	\$223,505,000	\$-10,386,000	\$213,119,000
1/See Table 1A.	2/See Table 1B.	3/See Table 1C.	4/See Table 1D.

Table 1A
APPROPRIATIONS FOR PAYMENTS TO STATES
NUTRITION EDUCATION, FY 1976 - 1977

Smith-Lever Act: Section 3(d)	Fiscal Year 1976	Increase or Decrease Fiscal Year 1977	Total Proposed for FY 1977
Alabama	\$ 1,691,776	\$- 340,288	\$ 1,351,488
Alaska	144,640	- 29,086	115,554
Arizona	463,168	- 93,157	370,011
Arkansas	1,077,472	- 216,723	860,749
California	2,647,360	- 532,501	2,114,859
Colorado	458,617	- 92,242	366,375
Connecticut	372,160	- 74,851	297,309
Delaware	185,593	- 37,324	148,269
Florida	1,687,225	- 339,373	1,347,852
Georgia	1,841,939	- 370,493	1,471,446
Hawaii	217,446	- 43,731	173,715
Idaho	244,748	- 49,223	195,525
Illinois	1,773,683	- 356,764	1,416,919
Indiana	1,022,867	- 205,739	817,128
Iowa	777,145	- 156,313	620,832
Kansas	586,028	- 117,870	468,158
Kentucky	1,418,752	- 285,370	1,133,382
Louisiana	1,573,465	- 316,490	1,256,975
Maine	358,509	- 72,105	286,404
Maryland	704,339	- 141,668	562,671
Massachusetts	804,448	- 161,805	642,643
Michigan	1,505,209	- 302,761	1,202,448
Minnesota	845,401	- 170,043	675,358
Mississippi	1,459,705	- 293,608	1,166,097
Missouri	1,318,643	- 265,234	1,053,409
Montana	249,299	- 50,138	199,161
Nebraska	458,617	- 92,242	366,375
Nevada	140,089	- 28,171	111,918
New Hampshire	199,244	- 40,070	159,174
New Jersey	877,254	- 176,450	700,804
New Mexico	422,214	- 84,920	337,294
New York	2,783,872	- 559,960	2,223,912
North Carolina	2,178,668	- 438,225	1,740,443
North Dakota	294,803	- 59,291	235,512
Ohio	1,846,489	- 371,408	1,475,081
Oklahoma	886,355	- 178,280	708,075
Oregon	404,013	- 81,258	322,755
Pennsylvania	2,278,777	- 458,362	1,820,415
Puerto Rico	972,813	- 195,671	777,142
Rhode Island	253,849	- 51,053	202,796
South Carolina	1,314,092	- 264,318	1,049,774
South Dakota	331,226	- 66,715	264,511
Tennessee	1,691,776	- 340,288	1,351,488
Texas	3,539,238	- 711,900	2,827,338
Utah	253,849	- 51,053	202,796
Vermont	199,265	- 40,172	159,093
Virginia	1,446,054	- 290,862	1,155,192
Washington	558,726	- 112,379	446,347
West Virginia	836,301	- 168,212	668,089
Wisconsin	804,468	- 161,906	642,562
Wyoming	158,311	- 31,934	126,377
TOTAL	\$50,560,000	\$-10,170,000	\$40,390,000

Table 1B

APPROPRIATIONS FOR PAYMENTS TO THE 1890 LAND-GRANT COLLEGES
AND TUSKEGEE INSTITUTE, FY 1976 - 1977

Smith-Lever Act: Section 3(d)	Fiscal Year 1976	Increase FY 1977	Total Proposed for FY 1977
ALABAMA:			
Alabama A&M University	\$ 429,127	\$ 4,009	\$ 433,136
Tuskegee Institute	429,127	4,009	433,136
ARKANSAS:			
Univ. of Arkansas at Pine Bluff	368,931	3,497	372,428
DELAWARE:			
Delaware State College	157,878	1,004	158,882
FLORIDA:			
Florida A&M University	325,754	3,105	328,859
GEORGIA:			
Fort Valley State College	477,097	4,636	481,733
KENTUCKY:			
Kentucky State College	552,706	6,064	558,770
LOUISIANA:			
Southern Univ. and A&M College	356,966	3,347	360,313
MARYLAND			
Univ. of Maryland Eastern Shore	278,702	2,476	281,178
MISSISSIPPI:			
Alcorn A&M College	453,406	4,174	457,580
MISSOURI:			
Lincoln University	528,092	5,689	533,781
NORTH CAROLINA:			
North Carolina A&T State Univ.	739,325	7,705	747,030
OKLAHOMA:			
Langston University	339,732	3,318	343,050
SOUTH CAROLINA:			
South Carolina State College	392,635	3,494	396,129
TENNESSEE:			
Tennessee A&I State University	544,948	5,617	550,565
TEXAS:			
Prairie View A&M College	664,225	7,101	671,326
VIRGINIA			
Virginia State College	471,429	4,675	476,104
Special Projects	312,920	3,080	316,000
TOTAL	\$7,823,000	\$ 77,000	\$7,900,000

Table 1C

APPROPRIATIONS FOR PAYMENTS TO STATES
RURAL DEVELOPMENT, FY 1976 - 1977

Smith-Lever Act: Section 3(d)	Fiscal Year 1976	Increase or Decrease Fiscal Year 1977	Total Proposed for FY 1977
Alabama	\$ 24,636	\$ - 24,636	
Alaska	4,904	- 4,904	
Arizona	7,626	- 7,626	
Arkansas	19,435	- 19,435	
California	25,470	- 25,470	
Colorado	10,516	- 10,516	
Connecticut	9,219	- 9,219	
Delaware	5,369	- 5,369	
Florida	15,832	- 15,832	
Georgia	27,472	- 27,472	
Hawaii	4,966	- 4,966	
Idaho	9,632	- 9,632	
Illinois	32,109	- 32,109	
Indiana	29,584	- 29,584	
Iowa	30,073	- 30,073	
Kansas	17,733	- 17,733	
Kentucky	29,264	- 29,264	
Louisiana	18,679	- 18,679	
Maine	8,470	- 8,470	
Maryland	13,141	- 13,141	
Massachusetts	10,856	- 10,856	
Michigan	31,869	- 31,869	
Minnesota	28,543	- 28,543	
Mississippi	27,006	- 27,006	
Missouri	28,127	- 28,127	
Montana	8,875	- 8,875	
Nebraska	16,083	- 16,083	
Nevada	4,689	- 4,689	
New Hampshire	6,511	- 6,511	
New Jersey	10,698	- 10,698	
New Mexico	7,482	- 7,482	
New York	30,909	- 30,909	
North Carolina	45,108	- 45,108	
North Dakota	11,686	- 11,686	
Ohio	36,119	- 36,119	
Oklahoma	16,472	- 16,472	
Oregon	12,305	- 12,305	
Pennsylvania	36,857	- 36,857	
Puerto Rico	32,799	- 32,799	
Rhode Island	4,726	- 4,726	
South Carolina	22,724	- 22,724	
South Dakota	11,892	- 11,892	
Tennessee	30,899	- 30,899	
Texas	38,396	- 38,396	
Utah	6,387	- 6,387	
Vermont	7,187	- 7,187	
Virginia	26,447	- 26,447	
Washington	14,681	- 14,681	
West Virginia	14,461	- 14,461	
Wisconsin	29,233	- 29,233	
Wyoming	5,843	- 5,843	
Special Projects	40,000	- 40,000	
TOTAL	\$1,000,000	\$ -1,000,000	

Table 1D
 APPROPRIATIONS FOR PAYMENTS TO STATES
 TITLE V OF RURAL DEVELOPMENT ACT OF 1972
 Fiscal Years 1976 - 1977

	Fiscal Year 1976	Decrease Fiscal Year 1977	Total Proposed for FY 1977
Alabama	\$ 27,948	\$- 27,948	
Alaska	7,340	- 7,340	
Arizona	10,478	- 10,478	
Arkansas	24,529	- 24,529	
California	32,862	- 32,862	
Colorado	15,092	- 15,092	
Connecticut	12,920	- 12,920	
Delaware	7,908	- 7,908	
Florida	21,925	- 21,925	
Georgia	32,135	- 32,135	
Hawaii	7,392	- 7,392	
Idaho	14,215	- 14,215	
Illinois	47,489	- 47,489	
Indiana	43,813	- 43,813	
Iowa	46,216	- 46,216	
Kansas	26,419	- 26,419	
Kentucky	41,640	- 41,640	
Louisiana	23,537	- 23,537	
Maine	11,585	- 11,585	
Maryland	17,723	- 17,723	
Massachusetts	14,871	- 14,871	
Michigan	42,727	- 42,727	
Minnesota	43,516	- 43,516	
Mississippi	29,046	- 29,046	
Missouri	39,131	- 39,131	
Montana	13,518	- 13,518	
Nebraska	24,703	- 24,703	
Nevada	7,166	- 7,166	
New Hampshire	9,298	- 9,298	
New Jersey	14,898	- 14,898	
New Mexico	10,802	- 10,802	
New York	40,537	- 40,537	
North Carolina	52,593	- 52,593	
North Dakota	17,737	- 17,737	
Ohio	50,843	- 50,843	
Oklahoma	23,336	- 23,336	
Oregon	17,955	- 17,955	
Pennsylvania	49,096	- 49,096	
Puerto Rico	34,225	- 34,225	
Rhode Island	7,119	- 7,119	
South Carolina	24,517	- 24,517	
South Dakota	18,560	- 18,560	
Tennessee	38,662	- 38,662	
Texas	48,565	- 48,565	
Utah	9,264	- 9,264	
Vermont	10,114	- 10,114	
Virginia	32,386	- 32,386	
Washington	20,705	- 20,705	
West Virginia	18,765	- 18,765	
Wisconsin	43,317	- 43,317	
Wyoming	8,862	- 8,862	
4%--Federal Administration	60,000	- 60,000	
10% to finance work in two or more States	150,000	- 150,000	
TOTAL	\$1,500,000	\$-1,500,000	

Table II
APPROPRIATION FOR PAYMENTS TO STATES

Basis of Allotment and Matching Required, Fiscal Year 1977

Item	Total Estimate 1977	Allotment	Amount Paid Without Matching	Amount Required Matching
Smith-Lever Act:	\$212,209,000:			
Section 3(b)		\$ 56,475,091 - Fixed by Section 3(b) of Public Law: 87-749	\$ 14,513,808:	\$ 41,961,283
		1,544,909 - Special Needs:	--	1,544,909
Section 3(c)		74,722,000 28,661,248 - by farm population 28,661,248 - by rural population 14,530,624 - equally; and 2,868,880 - for Extension: Service ad- ministration and Coordina- tion, Section: 3(c) 1	2,868,880:	71,853,120
Section 3(d)		52,245,000 - Allocated on basis of ap- proved pro- jects.	52,245,000:	--
Retirement and: Employee Compensation: Costs		15,977,000 - Federal con- tribution to these funds	15,977,000:	--
Penalty Mail		11,245,000 - Reimbursement: to the Postal Service	11,245,000:	--
SUBTOTAL	212,209,000	212,209,000	96,849,688	115,359,312
D.C. Public Postsecond- ary Education Reorganizat- ion Act	910,000	910,000 873,600 - to District of Columbia 36,400 - for Extension: Service	36,400	873,600
GRAND TOTAL	\$213,119,000	\$213,119,000	\$ 96,886,088:	\$116,232,912

Table III
SOURCES OF FUNDS ALLOTTED FOR COOPERATIVE EXTENSION WORK
For Fiscal Year Ending June 30, 1976

STATES	GRAND TOTAL	Total Federal Funds	Total Within States	FUNDS FROM FEDERAL SOURCES			STATE	COUNTY	NON-TAX
				Smith-Lever Act	Title V, RD Act of 1972				
Alabama	\$ 14,364,277	\$ 6,352,018	\$ 8,012,259	\$ 6,324,070	\$ 27,948	\$ 6,347,104	\$ 1,486,385	\$ 178,770	--
Alaska	1,789,574	644,057	1,145,517	636,717	7,340	1,145,517	--	--	--
Arizona	3,985,950	1,436,371	2,549,579	1,425,893	10,478	2,209,486	149,600	190,493	76,165
Arkansas	10,816,839	4,576,483	6,240,356	4,551,954	24,529	5,393,442	770,749	435,093	160,867
California	23,700,894	6,126,700	17,574,194	6,093,838	32,862	13,023,348	4,115,753	--	--
Colorado	6,464,676	1,856,523	4,608,153	1,841,431	15,092	2,694,499	1,752,787	--	--
Connecticut	2,754,383	1,347,100	1,407,283	1,334,180	12,920	1,407,283	--	--	--
Delaware	1,624,065	894,584	729,481	886,676	7,908	639,458	17,260	72,763	211,000
Florida	11,493,151	3,918,597	7,574,554	3,896,672	21,925	5,547,023	1,816,531	968,099	--
Georgia	17,862,997	6,410,747	11,452,250	6,378,612	32,135	8,278,990	2,205,161	--	--
Guam	564,210	394,112	170,098	394,112	--	170,098	--	--	--
Hawaii	2,275,260	870,253	1,405,007	862,861	7,392	1,405,007	--	--	--
Idaho	4,232,001	1,473,349	2,758,652	1,459,134	14,215	1,935,500	795,552	27,600	846,362
Illinois	14,592,311	6,148,264	8,444,047	6,100,775	47,489	6,789,746	807,939	117,832	120,900
Indiana	12,034,309	4,872,266	7,162,043	4,828,453	43,813	3,561,230	3,482,981	1,250,000	--
Iowa	13,959,802	4,836,833	9,122,969	4,790,617	46,216	5,056,845	3,945,224	--	--
Kansas	12,494,737	3,113,728	9,381,009	3,087,309	26,419	3,681,009	4,450,000	--	--
Kentucky	12,497,706	6,356,627	6,141,079	6,314,987	41,640	4,044,638	2,096,441	11,849	14,400
Louisiana	12,488,549	4,661,823	7,826,726	4,638,286	23,537	7,370,077	444,800	386,490	2,500
Maine	2,994,976	1,376,751	1,618,225	1,365,166	11,585	1,217,335	1,359,934	--	--
Maryland	7,555,909	2,526,150	5,029,759	2,508,427	17,723	3,667,325	1,923,350	263,521	38,185
Massachusetts	4,995,658	2,030,951	2,944,707	2,036,080	14,871	1,021,357	3,200,000	100,043	667,445
Michigan	15,595,878	5,534,412	10,061,466	5,491,685	42,727	6,597,945	1,145,786	204,372	252,027
Minnesota	12,739,729	4,721,796	8,017,933	4,678,280	43,516	5,133,337	2,846,411	30,615	--
Mississippi	12,727,126	5,907,448	6,819,678	5,878,402	29,040	5,573,849	1,656,959	--	--
Missouri	14,502,756	5,858,610	8,644,146	5,819,479	39,131	6,319,742	1,211,089	--	--
Montana	4,062,899	1,451,136	2,611,763	1,437,618	13,518	1,196,302	447,014	--	--
Nebraska	8,789,893	2,704,398	6,085,495	2,679,695	24,703	3,713,988	2,119,480	--	--
Nevada	2,278,090	690,924	1,587,166	683,758	7,166	1,109,537	585,408	--	--
New Hampshire	2,051,399	881,765	1,169,634	872,467	9,298	2,344,318	1,993,428	--	--
New Jersey	6,433,088	2,095,342	4,337,746	2,080,444	14,898	2,344,318	1,993,428	--	--

STATES	GRAND TOTAL	Total Federal Funds	Total Within States	FUNDS FROM FEDERAL SOURCES			- STATE	COUNTY	NON-TAX
				Smith-Lever Act	Title V, RD Act of 1972				
New Mexico	\$ 3,521,731	\$ 1,452,731	\$ 2,069,000	\$ 1,441,929	\$ 10,802	\$ 1,530,000	\$ 539,000	\$	--
New York	22,227,222	6,627,777	15,599,445	6,587,240	40,537	4,875,592	10,100,368	623,485	--
North Carolina	22,461,451	8,950,077	13,511,374	8,897,484	52,593	8,595,325	4,850,000	66,049	--
North Dakota	4,516,863	1,917,310	2,599,553	1,899,573	17,737	1,392,198	1,038,615	148,740	--
Ohio	14,833,362	6,730,829	8,102,533	6,679,986	50,843	4,362,960	3,331,578	407,995	--
Oklahoma	11,157,073	3,916,211	7,240,862	3,892,875	23,336	4,628,578	2,143,534	468,750	--
Oregon	8,263,786	1,975,512	6,288,274	1,957,557	17,955	4,983,247	1,305,027	--	--
Pennsylvania	12,344,537	7,094,537	5,250,000	7,045,441	49,096	3,300,000	1,950,000	--	--
Puerto Rico	7,952,030	5,003,725	2,948,305	4,969,500	34,225	2,948,305	--	--	--
Rhode Island	1,227,720	724,090	503,630	716,971	7,119	452,527	44,586	6,517	--
South Carolina	9,631,335	4,780,813	4,850,522	4,756,296	24,517	4,767,824	46,000	36,698	--
South Dakota	5,293,814	1,943,064	3,350,750	1,924,504	18,560	2,487,500	844,313	18,937	--
Tennessee	12,411,724	6,608,780	5,802,944	6,570,118	38,662	4,189,000	1,456,344	157,600	--
Texas	29,406,261	10,470,014	18,936,247	10,421,449	48,565	13,449,949	5,192,991	293,307	--
Utah	3,379,865	1,101,683	2,278,182	1,092,419	9,264	1,863,669	392,513	22,000	--
Vermont	2,369,009	1,001,529	1,367,480	991,415	10,114	1,136,102	222,678	8,700	--
Virginia	20,246,170	5,618,415	14,627,755	5,586,029	32,386	11,107,340	3,520,415	--	--
Virgin Islands	521,851	380,845	141,006	380,845	--	141,006	--	--	--
Washington	7,317,794	2,401,409	4,916,385	2,380,704	20,705	3,028,711	1,759,562	128,112	--
West Virginia	5,403,165	2,999,907	2,403,258	2,981,142	18,765	1,293,360	1,109,898	--	--
Wisconsin	14,221,007	4,662,379	9,558,628	4,619,062	43,317	5,097,061	4,250,129	211,438	--
Wyoming	2,545,597	899,215	1,646,382	890,353	8,862	1,169,876	476,506	--	--
Unallotted	3,311,990	3,311,990	--	3,161,990 <u>1/</u>	150,000 <u>2/</u>	--	--	--	--
GRAND TOTAL	\$499,288,449	\$192,662,960	\$306,625,489	\$191,222,960	\$ 1,440,000	\$205,980,873	\$ 91,805,387	\$ 8,839,229	
District of Columbia <u>3/</u>	1,747,200	873,600	873,600	--	--	873,600			

1/ Includes \$2,935,000 for Pest Management
Funds not distributed at this time.

2/ Not distributed at this time.

3/ D.C. Postsecondary Education Reorganization Act

TABLE IV

COOPERATIVE EXTENSION AGENTS, BY ORGANIZATION CLASSES
(Man-Year Equivalents)

Extension Workers by Organization Classes	Fiscal Year 1974	Fiscal Year 1975	Fiscal Year 1976
<u>State Workers:</u>			
Directors and Administrative personnel.....	438	440	440
Specialists.....	4,037	4,086	4,131
Total, State Staff.....	4,475	4,526	4,571
<u>County Workers:</u>			
Leaders and Supervisors.....	686	695	702
Area Agents.....	1,363	1,397	1,413
County Extension Agents.....	9,767	9,925	10,037
Total, County Staff.....	11,816	12,017	12,152
Grand Total.....	16,291	16,543	16,723

STATUS OF PROGRAM

Cooperative extension work is conducted in each of the States, Puerto Rico, Guam the Virgin Islands, and the District of Columbia by 70 land-grant institutions and Tuskegee Institute through a unique cooperative arrangement between the Department of Agriculture and the State and local governments. It is the world's largest and most successful system of informal education oriented to helping people solve problems and develop opportunities in their homes, their businesses, and in their communities. It is a system that has perceptively attuned its emphasis over the years with the changing needs of the time through a sound and efficient staff of highly trained extension agents working at the "grass roots level". This system is helping in meeting increased demands for agricultural production for domestic and worldwide consumption in the face of International inflation, a post recession economy, high energy costs, and unpredictable weather conditions.

The main focus of educational programs has been agriculture, consisting of animal industry, horticulture, marketing, forestry, and environmental improvement; home-economics-- primarily family education and nutrition; 4-H youth development; and community resource development. Specific accomplishments for these programs are highlighted and summarized in the following statements:

AGRICULTURE, FORESTRY AND NATURAL RESOURCES

The agriculture, forestry and natural resources staffs of the Cooperative Extension Service serve as the primary delivery system of agricultural research to clientele in all counties and agricultural communities throughout the United States. The principal objective of the agricultural education delivery system is to assure the utilization of research results and scientific know-how to help farmers and others engaged in agricultural pursuits, including forestry, to build highly efficient systems of production, processing and marketing for food and fiber products, with particular emphasis on needs and problems of the private, independent family-owned farm and owners of timberland.

The primary clientele group for this segment of the Extension program is the Nation's commercial farmers. It also serves agricultural businesses providing services to farmers, limited resource and part-time farmers and provides research results and other agricultural information to non-farm people about home lawns, gardens, and related subjects.

Farm Business Management--Farm management Extension programs continue to provide assistance to individual producers in making decisions on overall farm organization and combination of enterprises, as well as on the economics of individual enterprise operations. Farm management handbooks and working materials have been updated and revised more frequently than usual because of the dynamic situation in farming. There has been much more integration of outlook analyses and data from USDA Crop and Outlook Reports into farm management Extension materials and programs.

In FY 1975, financial management became an increasingly critical phase of overall farm management as farm debt, production costs, and land values rose sharply while net farm incomes declined from record levels. The Extension staff at the State, regional and national levels gave increased attention to the development and use of educational materials dealing with the feasibility of making farm investments and in assisting producers to make cash flow analyses.

Farm and Food Policy--As an outgrowth of the agricultural policy program "Who Will Control U.S. Agriculture?" a proposal from the State Extension Services for the development of "a national food policy" project has been initiated. This project provides for the development of a "basebook" which basically provides an analysis

of the various food policy alternatives facing the Nation and consequences of pursuing different alternatives. The basebook, together with educational material to be used with various audiences, is expected to be used widely by the Extension Services throughout the Nation during the next year.

International Trade and Agricultural Products--During the past year, educational materials were developed to provide information on international marketing of grains, especially wheat, and the role of the USDA, the grain and soybean associations and private trade in marketing grains and other agricultural products in overseas markets. Two publications were developed entitled "Wheat Around the World" and "Selling U.S. Wheat and Foreign Markets." In addition, a leaflet entitled, "Building World Markets for U.S. Soybeans," was developed by Extension staff members who serve on the Extension Soybean Industry Resource Committee.

Transportation of Agricultural Products--During the past year, Extension Transportation activities included providing educational information and assistance concerning changes in the transportation structure and possible effects on agricultural marketing in the 17 northeast and midwest states involved in the Rail Reorganization Plan. Educational materials and programs are being conducted on the transportation of wheat and other agricultural products. One example of these materials includes a series of slides on the "The Role of Transportation in Marketing Grain," and accompanying leaflets to be used in wheat producing states to provide information to wheat producers on changes taking place in transportation.

Iowa State University has developed specific materials on farm adjustment to branchline abandonment, and information now being used by other State Extension Services on (1) boxcar shortages, (2) the efficiencies and effects of special multi-car rate tariffs to encourage multiple-car grain shipments, and (3) improved transportation from coordinated use of rail and truck carriers to deliver grain from county origins. Utah and other states have emphasized implementation of changes in the freight rate structure and a closer coordination of present transportation modes.

Energy Management and Conservation in Agriculture--A pilot project on energy conservation and management has been conducted by the Florida Extension Service with the primary emphasis on the development of publications and audio-visual material suitable for use by the Cooperative Extension Service throughout the country.

Improving the Efficiency of Farm Supply Cooperatives--As a follow-up to the pilot program on managing farm supply cooperatives which was developed in cooperation with the Southern States Cooperative, Inc., three regional workshops were held for state Extension specialists, training directors of farm supply cooperatives and training staffs of banks for cooperatives. Two regional farm supply cooperatives are planning similar programs and four other regionals are exploring the possibilities of programs.

Environmental Improvement--A nationwide educational effort to assure a safe and adequate supply of food and fiber, while at the same time maintaining and improving the quality of the environment is highlighted in a report, "A People and Their Environment." This report was developed by the Environmental Quality Subcommittee of the Extension Committee on Organization and Policy, representing State Extension Services in various regions of the country. The report analyzes 10 high priority issues--land erosion and sedimentation, chemical fertilizers, natural resources, air pollution, water, energy and related environmental concerns of horticulture, home economics, and youth.

Extension agricultural engineers produced a Livestock Waste Management Handbook for use by dairies and small beef and swine operations (an estimated 20,000 copies are being used throughout the Nation). The Extension staff consulted with EPA on the development of feasible and practical animal waste management guidelines for meeting the U.S. District Court Order on June 10, 1975.

A national workshop on Agricultural Nonpoint Source Water Pollution Control was conducted in cooperation with EPA to address major sources of agriculturally derived nonpoint sources of water pollution.

Swine--In March 1975, ES-USDA gave leadership to the formation of the National Swine Improvement Federation, a federation of organizations involved in swine performance testing to develop guidelines for uniform swine improvement programs. These guidelines will serve as a pattern for developing swine improvement programs in this country. They will greatly improve producer competence in selecting superior breeding stock and producing swine more efficiently and economically. In 1975, ES-USDA jointly funded a \$75,000 project to develop a National Swine Industry Handbook covering all aspects of swine production and marketing which can be continuously revised and kept current with research.

Sheep--ES-USDA has provided leadership in helping the sheep industry formulate the "Sheep Industry Development Program, Inc. (SID)." Through this organizational structure the "Sheepmen's Production Handbook" (the standard reference for the industry) was prepared and is updated. Also, through SID, the sheep industry initiated the tel-o-auction, a cooperative marketing procedure that will market over 150,000 sheep in Virginia and Idaho this year. Several other states are in the process of joining the Virginia and Idaho co-ops or are forming their own co-ops.

Soybeans--The focus of agronomy and farm management work nationally in 1975 was on the development and initiation of a project to help evaluate the economic trade-offs that soybean producers should consider in deciding soybean production practices for optimum yields. A special project with Illinois is underway to improve soybean production and farm management educational materials adapted for regional use. The practices of the better soybean producers are being studied and economic budgets prepared for different areas of the corn belt. Fact sheets were prepared and distributed to the soybean producing states throughout the year. These included a reminder during the nitrogen shortage to minimize or leave off nitrogen fertilization for soybeans. Fact sheets were also developed and distributed on grading, weed control, and care and harvesting soybeans. A cash flow projection form which can be used for improving financial management decisions of producers was prepared and distributed to Extension specialists in soybean producing states. With increased emphasis on a shift of the marketing responsibilities to producers, better maintenance of soybeans and farm storage received additional attention.

Potatoes--A project on potato processing contracts with the Idaho Extension Service was completed. A set of 43 slides, script, and 500 copies of background information publication were developed and distributed to Extension marketing specialists in the 12 major potato producing states. Several workshops and seminars were conducted during 1975 utilizing these materials. Discussions were conducted with the National Potato Council regarding development of a marketing information program. Research and Extension specialists have prepared tables to guide fertilizer applications to potatoes based on the nutrient level of the soil, yield goals and potato quality aspects.

Cotton--Cooperative Extension Service specialists, cotton industry leaders, and research workers identified areas of technology offering the greatest potential for improving efficiency of cotton production in 1975. These included land preparation and planning, fertilization, pest control, and harvesting. Educational programs were developed to focus special emphasis on these practices in each of

the major cotton producing states. Special emphasis is being given cotton pest management programs in 14 states as a means of improving cotton production efficiency and keeping pesticide use to a minimum. Further expansion of programs in pest management is planned in the 11 boll weevil infested states. Extension Service, in cooperation with ARS, the Cotton Ginners Associations, the State Air Pollution Control Commissions, Cotton, Inc., and the Incinerator Equipment Industry is developing a research and demonstration program designed to solve the gin waste problem. In an effort to preserve the spinning quality of cotton, the Extension Service has worked cooperatively with ARS, the National Cotton Council, Cotton, Inc., the Delta Council, the Midsouth Ginners Association and Calcot Ltd. in developing guidelines and news releases and conducting clinics and seminars focused on prevention of oil contamination of cotton.

Beef--ES-USDA organized four inter-regional beef seminars to review the critical situation in the beef industry in 1974 and 1975. More than 360 beef industry leaders, executives of financial institutions, members of farm press, and USDA and land-grant university personnel participated in these seminars. An ES-USDA pilot project to develop management systems for small cow-calf herds (those with less than 50 cows) is being completed by Michigan State University and Pennsylvania State University specialists. Four other northeastern land-grant universities are also helping to provide directions to this project through an advisory committee. ES-USDA personnel led ES-CES efforts which will result in preparation of comprehensive regional cow-calf handbooks in the Great Plains and southeast. These handbooks will provide the first complete reference for cow-calf production available to producers and others in these major beef production regions.

Forestry--A report "Extension Education in Forestry" was prepared by a task force of CES, ES and FS specialists. The report provides a "blueprint" for Extension support to the nation's forestry industries, with particular emphasis on opportunities to serve the private, non-industrial owner of forest lands, and increasing efficiency of wood using firms.

Apples--In cooperation with state specialists two slide sets ("Pick Apples Properly" and "Maintaining Apple Quality in Retail Stores") were developed. An instructor's manual on Personnel Management for Orchard and Packinghouse Supervisors was developed and used in four area workshops. Four apple processing feasibility publications were developed.

Wheat--Because of variable wheat prices and changes in wheat marketing, Extension has given particular attention this past year to expanding producer programs in the marketing of wheat. Over 25,000 copies of a publication "Marketing Alternatives for Producers of Wheat" was distributed and is being used in meetings with wheat producers. Also, concerned with wheat prices is a publication entitled, "Factors Determining the Price of White Wheat in the Pacific Northwest," which was completed during the year and has been distributed quite widely. In addition, two other publications were completed under an ES pilot project with South Dakota State University to help strengthen Extension's educational programs with producers on alternative marketing strategies. An Extension work group on foreign wheat marketing developed several leaflets for use in foreign trade discussions describing the U.S. participation in world trade, and producer involvement in world marketing. Educational programs are also being conducted on the role of transportation in marketing grain.

Horses--In cooperation with the horse industry and land grant universities, ES-USDA is giving leadership to the development and distribution of new national 4-H horse materials. Nearly a quarter of a million pieces of material (fact sheets, slide sets, cassettes) were distributed in fiscal year 1975. Extension Service continues to have the lead agency role for horses in USDA and for coordinating the recommendations of the National Horse Industry Advisory Committee with recommendations with USDA agencies.

Poultry--Extension specialists throughout the country conducted educational programs related to the Egg Research and Consumer Information Act and emphasized marketing facts for eggs, broilers, and turkeys. Emergency disease preparedness planning guidelines are being developed. Programs to assist poultry industry comply with FDA, EPA, and OSHA regulations are currently high priority activities.

Dairy--Extension is placing a high priority on the following: (1) identifying dairy cattle with the greatest genetic potential for high production, (2) feeding for profit, and (3) developing an efficient dairy management program for day-to-day operations and for making long-run judgments regarding sound economic dairy operations.

Future dairy cattle with high production potential come from mating the best tested sires to the top two or three percent of the highest transmitting cows in the country. These cattle are identified and estimates of the genetic potential determined through the National Cooperative Dairy Herd Improvement Program. The USDA sponsors this effort with participation of more than 55,000 dairymen through their local and state DHIA organizations and the National Dairy Herd Improvement Association, Inc., breed registry associations and artificial insemination organizations.

Emergency Preparedness--In fiscal year 1975, ES cooperated with State Extension Services in reacting to disasters caused by tornadoes, snow, and floods. The greatest problem in these types of disasters is providing recovery information in a form that can be made available to the public with little or no revision. Extension Service responded with this "immediate action" type of information during the "Tornadoes of April 3 and 4, 1975" when a line of tornadoes struck Tennessee, Kentucky, Indiana, Ohio, and parts of seven other states, and when heavy snows paralyzed southwestern Pennsylvania during December 1974.

Work with Limited Resource Farmers--Pilot projects with limited resource farmers are underway in Maryland, Virginia, Texas, and Minnesota. In these projects, each paraprofessional works intensively with 20 to 30 individual farm operators. This approach appears to offer a great deal of promise in helping limited resource farmers who have not previously participated in Extension programs to improve their income within agriculture or to evaluate opportunities available to them off the farm.

Home Gardening--During the past two years there has been a great increase in the demand for home gardening information by non-farm residents throughout this country. This has resulted in a heavy demand on the time of county Extension staffs and has resulted in a sharp increase in the demand for publications and material available through the Service. In many areas, special attention was given to providing additional home gardening information to limited resource rural people.

COMMUNITY RESOURCE DEVELOPMENT

Significant program advancements in helping communities solve community problems were accomplished in FY 1975 through this program. The objectives of this program clearly focus on more enlightened community decisions that will increase economic opportunities and the quality of community life. Community resource development education is intended to cause citizens to be concerned, help them to study and analyze their community problems, help them to develop strategies for attainment of goals, and provide them with leadership and organizational skills for tackling the problems at hand.

Community Organization and Leadership Development--During FY 1975, Extension conducted 14,442 projects designed to improve community organization structures and functions and to further develop leadership skills and performance. This involved 20,550 meetings, workshops, and conferences reaching an estimated 400,000 people, plus the preparation and use of over 35,000 different publications on this subject.

Typical of the impact of these efforts is a revival of town meetings in Iowa resulting in new and revised community structures to deal with specific community problems, and emerging leadership in Missouri responsible for modernizing school facilities and constructing a sewage treatment facility,

Leadership capability and organization capacities developed by Extension in Nevada were instrumental in getting electric power to a remote Indian reservation. The Chimayo Community Development Committee in New Mexico, organized and sponsored by Extension accomplished the installation of a telephone system in the community, opened natural gas to the community, established a fire department and acquired lands for waste disposal sites and for a cemetery. Community organization and leadership development activities with low income people in Delaware have resulted in the development of 100 apartments for low-income families and a 50 unit mobile home park.

Comprehensive Planning--During the past year the bulk of Extension efforts in comprehensive planning were in the area of land use policy. This is the result of national and state concerns and efforts in land use legislation. The Extension Land Utilization Task Force in Kansas publishes a newsletter entitled "People and the Land." The Task Force sponsored a state-wide educational program on National Flood Prevention Insurance with particular emphasis on the program's flood plain management implications.

Community Services and Facilities, including Housing--During the year, Cooperative Extension Services in various states helped conduct 9,000 conferences and workshops on community services and facilities. In addition, 2,361 feasibility studies were conducted, over 10,000 projects assisted, and 33,000 news articles and publications prepared on the subject. Extension staffs helped local citizens develop alternative sources of funds for such services as water, sewage, solid waste and health. Through Extension help, North Dakota had four rural water systems operational, two under construction, and 15 in the planning stage. Kentucky Extension assisted 11 communities with preparation for new sewage disposal systems and 22 with plans for expanding sewage systems. The construction of 60 self-help houses, adding three-fourths of a million dollars to the local economy, has been achieved by the Extension-assisted Northeast Connecticut Community Development Corporation. The potential for mobile homes to provide low-cost housing alternatives was the focus of major Extension educational efforts in Missouri, Georgia, Delaware, North Carolina, New York, and Tennessee.

Economic Development--With the investment of 329 staff years by Extension during 1975, substantial progress was made toward the goals of increased business and economic development to increase income, to create employment opportunities, and to strengthen the economic base of rural America. Highlights of accomplishments were educational programs for small businessmen in Montana; new industries, banks, seafood cooperatives, farmers' markets, and processing plants in Texas; new savings and loan businesses organized in Kansas; and increased business and industrial employment in almost every state. Assistance to existing or new industries in rural areas included solving managerial, technical, personnel, fiscal, and other problems that were hampering growth of rural business and industry. A manual and a 19-lesson, self-study course on Industrial Development were prepared by ES-USDA. It is now being used extensively by community leaders and industrial developers.

Taxation and Local Government--Every state has had Extension education programs dealing with local government and taxation. Conferences, seminars, workshops, and short courses have been provided for local government officials and employees and for associations of local government professionals. Primary Extension audiences have been mayors and councilmen, county commissioners, city managers, planners, county and city clerks, finance officials, assessors, and county and municipal attorneys.

HOME ECONOMICS

Extension Home Economics education is directed to families and individuals in all levels of society to provide assistance in identifying needs, making decisions, and utilizing resources to improve the quality of family and community living. Special emphasis is given to the low-income, racial minorities, elderly, youth, young families, and handicapped. Program leadership is provided by Extension home economists at Federal, State, and local levels, paraprofessional aides, and 900,000 trained volunteer leaders.

An important source of volunteer leadership is the Extension Homemakers organization, some 600,000 members in 35,000 organized community groups. The multiplier effect of this leadership, according to a recent survey, accounts for 6 times more volunteer days than the total expended staff days of professional home economists. In a one year period these leaders, trained and supported by Extension home economists, taught 2 million adults and a million youth through individual and group methods.

With reduced purchasing power and an expectation of continued rise in costs, Extension educational programs assisted families in adjusting to economic change and fully utilizing available resources needed for decisionmaking, management, and information.

Human Nutrition--Program emphasis has been nutrition, food safety, home food production and preservation, and consumer education in food marketing processes. Extension has responded to sharply increased demands for assistance in home production and preservation information. States reporting included 37 States which had reproduced approximately a million copies of 8 food safety leaflets, and 26 States which had reached more than 12 million persons with food safety information. Eleven thousand food preservation packets were distributed to States for county use and 213 copies of a new food preservation slide series were purchased by States. Extension provided resource persons for 9 regional USDA home canning and food safety briefings in FY 75 for food editors and leaders of consumer groups. For example, Minnesota distributed 90,000 publications and answered 6,500 consumer calls during peak months on safe food preservation. Wisconsin produced a consumer education series of 123 garden and food preservation tapes which were tapped in one county by 8,700 phone calls the first 17 weeks. In the same county 700 persons attended canning and freezing clinics.

Family Resource Management--Increased emphasis in this program helped people extend and expand their resources, understand the economic situation, and become more competent in buying, maintaining and using goods and services. In Mississippi, 24,069 people were reached in 61 workshops on money management and coping with the high cost of living. Kansas provided updated training in economics to 695 volunteer community leaders, teachers, and Extension staff, and distributed 60,000 copies of related publication. Ohio trained over 450 leaders in 6 counties who trained groups to "Cope with Inflation." In South Carolina approximately 1,000 persons used computer assisted programs to assist in developing a spending plan based on the family income and current spending patterns. In Hawaii a series of

33 consumer education color television presentations were programmed in a State-wide effort to fight inflation. In Florida 31 newspapers including 2 Spanish and 2 Black dailies carried a special "Consumer Ask" series.

Clothing and Textiles--Extension home economists assisted consumers to learn quick and effective ways to save money through wise purchases and care of textiles and clothing, new sewing techniques, and recycling used clothing. For example through a program in one Oklahoma county, 154 low-income women and girls increased knowledge and skills in selection and sewing techniques; they made 254 garments at a savings of \$2,540, collected 600 patterns for those who could not afford to buy, for a savings of \$350 and tripled contact with low-income families.

In another Oklahoma county 606 homemakers placed a value of \$36,240 on clothing information obtained and reported a saving of \$24,160 on garments they constructed.

Housing and Energy Management--With the escalating costs of energy supply, extension housing programs have given priority to energy conservation, home selection and cost, and home care and maintenance, particularly for low-income people. Several States have provided pre-ownership education for low-income families qualifying for interest credit loans to purchase housing. For example, in Mississippi 18 families considered doubtful credit risks were assisted by Extension educational programs. As a result, all were approved for loans and moved into new homes, none defaulted and all are more financially stable. South Carolina trained program assistants (aides) and prepared materials for the Basic Home Program in cooperation with the State Housing Authority. In cooperation with HUD, they provided resource materials for counseling on the Turnkey III project. Result demonstrations on home improvements to increase livability and reduce energy consumption have proven effective in several States. Texas reported 290,500 families viewed a 13 part television series, "You Can Do It." Thirty-two thousand homemakers participated in followup workshops, institutes, and direct mail teaching of home care and maintenance skills. Return of \$100,000 in savings was realized. Another 4,500 people learned techniques and restored 850 pieces of used, damaged, or discarded furniture at a savings of \$19,250.

Children and Families--Effects of social, physical, and emotional environment of families, particularly in areas of child care and marriage, have been emphasized. Two examples illustrate new methods of teaching hard-to-reach audiences. Five States in the North Central Region cooperatively developed a series of 12 very successful $\frac{1}{2}$ hour TV educational programs on marriage, including video tapes, promotion and study materials which are being made available nationally. In Nassau County, New York, an educational training program for day care providers operates out of a storefront location in the community it serves. Paraprofessionals trained by Extension and a monthly newsletter received by 500 persons extend this effort into the community. Approximately 5,000 children have been reached, 297 different day care providers received assistance, 105 of these completing the training course provided and 200 to 300 visits were made monthly to the center by providers, parents with children needing day care, agency visitors, and others.

In addition to programs related to these major areas of concern, Home Economics provides leadership in programs to meet the interests and needs of specific audiences including young families, the aging, the handicapped, ethnic minorities, and the culturally and financially deprived. Extension home economists serve both handicapped and nonhandicapped homemakers. National leadership is given and educational information regularly provided to assist States with programs for the handicapped. Handicapped homemakers are alerted to available community services for their specific benefit, and public awareness is increased

concerning causes, possible correction and prevention of physical and mental handicaps. Extension specialists at the universities of Missouri, Colorado, and Nebraska assisted in designing kitchen-laboratories which demonstrate special conveniences and techniques that simplify food preparation for physically handicapped people. Extension staff worked with other home economics staff in Alabama, Florida, Nebraska, Missouri, Oklahoma, and Arizona to provide training for persons who work with the handicapped. Results are being made available to assist other States teach handicapped homemakers.

4-H - YOUTH DEVELOPMENT

The fundamentals on which the 4-H - Youth program are based are as essential to youth in the Nation's third century as they were in the early 1900's when 4-H had its beginnings. 4-H looks to the future and assists youth in learning to live in a changing world. By carrying out practical work projects and engaging in community development, 4-H members learn to make decisions, take responsibility, and develop lasting citizenship attitudes and values.

The most recent national summary available shows participation in 4-H at an all-time high. This is evidenced in cities as well as among farm and rural youth. Although there has been expansion in urban areas in recent years, this has not been made at the expense of rural youth. Youth members in 4-H clubs and 4-H special interest groups enrolled in over 8 million learn-by-doing educational projects -- an average of 2.3 projects per member. In addition, 885,000 youth enrolled in the 4-H Expanded Food and Nutrition Education Program and 2.5 million youth enrolled in instructional 4-H TV series -- primarily "Mulligan Stew."

The significance of this growth in 4-H is shown in the following comparisons between 1970 and 1974:

	<u>1970</u>	<u>1974</u>
Enrollments in 4-H Clubs	2,062,340	2,284,769
Enrollments in 4-H Special Interest Groups	326,457	1,458,057
Participation in Instructional 4-H TV Series	486,925	2,570,342
Participated in 4-H Expanded Food and Nutrition Education Programs for Low Income City Youth	<u>129,490</u> 3,105,202	<u>885,116</u> 7,198,284

Youth in 4-H Clubs and 4-H Special Interest Groups
(by Place of Residence):

	<u>1970</u>	<u>1974</u>
Farm	837,602	936,378
Towns under 10,000 & Open Country	999,152	1,592,276
Towns and Cities, 10,000-50,000	309,701	568,678
Suburbs of Cities, 50,000 & Over	126,428	257,274
Central Cities, 50,000 & Over	115,914	388,220

Minority group participation in 4-H clubs and 4-H special interest groups also has increased steadily. In FY 1974, 19.2 percent of the youth enrolled were from minority groups as compared to 17.2 percent in 1970. In addition to these youth, over one half of the participants in 4-H EFNEP are from minority groups--bringing the total minority youth involvement in 4-H in FY 1974 to 25.7 percent.

Volunteers in 4-H--Adult and teen volunteers continue to be the single largest input into the success of the 4-H program. This includes 342,000 4-H adult leaders, 152,000 4-H junior and teen leaders and 59,000 leaders assisting in 4-H Expanded Food and Nutrition Education programs. During FY 1974 554,000 volunteers contributed an estimated 13,875,000 man-days to 4-H.

In addition to these individual volunteers, local organization groups are also providing valuable leadership resources.

Paraprofessional Staff Development--In concert with Extension 4-H professional staff, paraprofessional 4-H workers continue to give expanding leadership to the 4-H program. Because of their close relationship to the community, they are able to recruit many adults and youth not previously served by 4-H.

Indiana currently has about 120 Concentrated Employment and Training Act employees assisting in 4-H Youth program as program assistants. While employed by Extension, they are given on-the-job training and work experience to better enable them to find permanent employment. In the summer when the work load for 4-H is the greatest, 350 Work-Study (college students) assistants are added to Indiana's paraprofessional staff. These paraprofessionals fulfill many functions such as identifying and developing volunteer leadership, providing recreational opportunities for youth and other important duties.

4-H in Urban Areas--Urban 4-H membership increased by 200,000 last year over the previous year. In FY 1974, 569,000 4-H members came from towns and cities of 10,000-50,000 residents; 257,000 from suburbs of cities over 50,000 residents and 388,000 from central cities of over 40,000 residents. This total enrollment of 1,214,000 was 32.5 percent of the 4-H membership in 4-H Clubs and special groups --662,000 over 1970. This does not include youth reached through the 4-H Expanded Food and Nutrition Education Program with 885,000 participants primarily from low income city families nor the youth in metropolitan areas enrolled in instructional 4-H TV Series.

Health a Major Focus--Top priority for 4-H health programs in most States continues to be an emphasis on drug and alcohol abuse education programs. Last year, 334,000 youth took part in programs dealing specifically with health, physical fitness and first aid. Another 700,000 took part in projects dealing with Food and Nutrition in addition to those participating in 4-H EFNEP--all focusing on good nutrition for good health. In addition, more than 450,000 youth participated in programs dealing with personal and child development.

Cooperative efforts involving 4-H and health organizations at all levels is on the increase. A study of 4-H health programs made possible by a grant from the Robert Wood Johnson Foundation is nearing completion. This study will help to develop fundamental policies and procedures for initiating a nationwide community based 4-H health education program for and through youth. As a part of this project, information on current health education programs being conducted through 4-H has been assembled. Youth and community health problems are being identified along with a long-range plan for systematic implementation of a major 4-H youth community health thrust.

Programs to Combat Juvenile Delinquency--Special emphasis on programs for youth who have become involved with the criminal justice system increased as a major objective in several States. Joint Law Enforcement Assistance Administration sponsored 4-H projects at the National, State and local levels have demonstrated the effectiveness of 4-H type character-building programs with pre-delinquent and marginal youngsters.

In Utah, through Utah State University, a multi-county juvenile justice program involving 4-H is being funded through Federal Law Enforcement Assistance Administration funds designed to meet social adjustment needs of about 200 teen-age boys yearly. These youth have been identified by the Juvenile Court as most likely to benefit from individualized, community-based treatment.

Programs for Disadvantaged and Minority Youth--Currently over 25 percent of the youth participating in 4-H are from minority racial groups.

In Yakima and Columbia Counties, Washington, youths from migrant families have been successfully reached, with projects in nutrition education, sewing and other projects related to practical home living skills.

Citizenship Education--Training youth to become responsible and productive citizens is the overall objective in all 4-H projects and activities. Many States, however, provide specific projects and programs dealing with various aspects of citizenship. Over 122,000 young people participated in such projects last year. Most of these were designed to give an insight into the meaning of citizenship and to strengthen understanding of American heritage, international interdependence, environmental concerns, energy resources, free enterprise and the economic system.

Using the nation's Capital as a "classroom," more than 6,000 teenagers from 43 States participated in leadership and citizenship training during the summer months at the National 4-H Center in Washington, D.C. Principles, processes and structure of the Federal Government were studied and the youth prepared specific plans for applying their new skills to their home communities.

Preparation for Jobs and Careers, Youth Employment--During the past year, 118,000 youth were enrolled in career and job opportunity programs. This represented a considerable increase over the 86,000 reported the previous year. Along with a study of careers and employment opportunities, college training has been made possible for many 4-H members through earnings from their 4-H projects and also through scholarships provided by business and industry support in National 4-H award programs.

Typical of these programs is Ohio's 4-H Community Development program which assists youth in getting jobs when they leave school. South Carolina Extension Service works with high school seniors in a program called "Being on your Own." As a part of the 4-H county career program in Minnesota, youth are helped to become aware of career possibilities in the 1980's. Dona Ana County, New Mexico, offers career training through projects and fits the youth to the job requirements under a program called SI (Students, Incorporated).

Production and Use of Food and Fiber--With the need for greater efficiency and larger production of food and fiber, the traditional agricultural-type 4-H projects have received increased attention by States.

Home gardening projects are becoming especially popular. In Perry County, Pa., older 4-H members became involved in a 4-H cantaloupe project in which 17 members started 2,600 plants producing 7,600 cantaloupes. Net cash income averaged \$176 per member and several 4-H'ers made over \$300.

Last year, 1,338,000 4-H members were enrolled in animal and poultry projects and another 583,000 had plants and soils projects.

Environmental Improvement and Energy Conservation--Last year, 654,000 youth were enrolled in 4-H projects on ecology and natural resources conservation.

In cooperation with a 4-H donor, funds were made available to three States to conduct innovative projects in environmental improvement. Virginia's program relates to energy management as it affects our environment. Emphasis includes energy resource conservation and environment. North Carolina's program focuses on an intensive 4-H leader training program designed to increase member and leader participation in the environmental improvement area. New York is develop-

ing educational aids to support the comprehensive Environmental Awareness program currently being implemented by the Northeast Regional 4-H Environmental Sciences Committee. Through this program, 4-H youth will explore their relationship to five specific environmental areas of forests, inland waters, city and town, farm, and marine.

4-H and the Bicentennial--Beginning with their current national theme, "4-H - '76 --Spirit of Tomorrow" 4-H'ers throughout the country are taking an active part in commemorating our Nation's Bicentennial. In Wisconsin, many 4-H'ers have been involved in a new activity called "History and Heritage." The project encourages youth and adults to work together in search of the past in order to plan for a more meaningful celebration. In honor of the Bicentennial, South Dakota 4-H'ers have been working for two years to create communities they are proud to live in. About 30,000 4-H'ers have been involved in activities ranging from cleaning up community buildings and parks, building nature and historical trails, conducting massive anti-litter campaigns, etc. 4-H'ers in the St. Louis area planted a red, white and blue floral display near the Gateway Arch as their effort.

4-H/Community Development--4-H/Community Development programs, with special efforts to involve young people in community life, are continuing to expand as a result of the Federal appropriations during the past three years. Community recreation, ecology and environment, land-use planning, local government study and participation, leadership development for community life, and cultural heritage are the major areas on which 4-H/Community Development programs are being focused.

Participation in 4-H Instructional TV Series--The very large increase last year in enrollments in 4-H instructional TV was due in large part to the tremendous success of the "Mulligan Stew" 4-H Nutrition Series. To date, more than 6 million manuals for this program have been distributed to youth all over the country. A study of the impact of this series was very favorable and recommended that Extension Service do a followup 4-H TV series. As a result of these recommendations and the strong support received in both House and Senate Agricultural Appropriations Committee hearings last year, development work has begun for a new 4-H TV series aimed at 9-12 year olds on the topic of production, processing, and distribution of food and fiber in America.

EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM

Nutrition Segment--The 1970 census identified about 5½ million families in Poverty. The Expanded Food and Nutrition Education Program (EFNEP), implemented by the USDA and the State Cooperative Extension Services in 1968, provided opportunity for States to expand food and nutrition education to this audience.

More than one million low-income families have been enrolled in an indepth food and nutrition education program and are taught how to improve their diets through: increased knowledge of the essentials of nutrition; increased ability to select and buy food; increased ability to prepare and serve meals; increased ability to manage resources plus improved practices in food storage and sanitation. In addition, 2 million youth have received nutrition education since inception of the program.

Eight-five percent of the program families have annual incomes of less than \$5,000. The average income of families is estimated at \$3,500. The minorities account for 62 percent of the participation. Fifty percent of the families have completed 8 grades or less.

As of December 1974, 50 percent of the program families were participating in the Food Stamp and Food Distribution programs. Eighty-seven percent of children eligible for school lunches were participating. Referral systems have been established with other agencies in most sites to assist families with other problems.

Volunteers represent a significant resource. More than 175,000 different volunteers have worked in the program from July 1971 through December 1974. Over 142,000 worked exclusively with youth. A program study showed that 60 percent of the volunteers have incomes below \$4,000.

4-H Segment--Participation in Extension's 4-H Expanded Food and Nutrition Education Program, primarily for low income city youth, remains high with approximately 900,000 youth reached through this program last year. As a result of this program, youth are learning good nutrition practices, how to improve their diets, and to best utilize the food available to them for good nutrition. In addition to improved health, involvement in this program has helped in the personal development of disadvantaged youth. More than half of the youth in the 4-H EFNEP last year came from minority ethnic groups.

Volunteers and program aides, most of them coming from low-income, minority groups they serve, have contributed much to the success of this program. Last year, almost 60,000 volunteers worked with youth in 4-H EFNEP.

PEST MANAGEMENT PROGRAM

The objectives of the pest management program are to provide technical leadership, training and educational materials to initiate innovative and critical pest control programs for protection of crops and animals due to losses caused by insects, weeds, diseases, and parasites. This multi-disciplinary approach coordinates the activities, involves the development of a result-demonstration pilot pest management program, development of pesticide use and applicator training programs, and other educational programs to reduce losses caused by pests.

In FY 1976, the Extension Service is providing \$1,385,000 to State Cooperative Extension Services to conduct about 35 pilot pest management projects in 30 states on 15 agricultural commodities. In addition, \$1,550,000 is being provided to the Cooperative Extension Services in 11 southern states to develop

statewide programs for managing boll weevils and other major cotton pests. In integrated pest management programs, growers are required to pay the direct cost of monitoring insects in fields by employment of private pest management consultants or through grower financed pest management associations or co-ops. The objectives of this Extension program is to provide growers with improved decision-making capability in order to provide effective, economically and environmentally sound pest management systems. Pest populations are maintained below economic entry levels by appropriate use of cultural, biological, and chemical methods.

There is strong evidence that through these pest management projects, growers have reduced the number of applications of pesticides in most instances when decisions on spraying are based on actual knowledge of pest populations. In some of the projects, there has been an actual increase in the amount of pesticides used because accurate monitoring of pest populations in crops has revealed economic losses were occurring without grower knowledge, and use of pesticides was the best alternative method of control. Where sufficient data exist, several states have developed predictive models to more accurately forecast local outbreaks of insects and diseases. This has enabled pest management advisors to provide farmers with better decision-making capability. There is increasing grower acceptance of the programs and a willingness to pay costs of monitoring field populations of pests either by hiring private consultants or by forming grower pest management service cooperatives.

A solution to the Gypsy moth problem requires coordinated research, education, and Extension activities; therefore, Extension has provided information to the states or USDA agency program plans, has prepared a status report for use in the Northeast, and assisted the states in developing a Gypsy moth fact sheet and a color slide set for use in states infested with Gypsy moth.

Increased emphasis was placed on the development of educational materials for weed control, and several conferences were organized to develop educational programs related to jimsonweed seed contamination of soybeans and grain sorghum, and increased attention was given to developing more effective programs for controlling wild oats and garlic in wheat.

The Extension Service has worked closely with EPA to develop training programs to ready private and commercial applicators of restricted use pesticides to meet state certification standards as required by the Federal Insecticide, Fungicide, and Rodenticide Act of 1972. This program is designed to reach over two million private and 100,000 commercial applicators by October 1977. The Cooperative Extension Service and EPA have developed and distributed thousands of copies of two basic national "core" manuals and supporting visual materials that will supplement state training materials needed to provide the necessary training for safe and proper use of pesticides. Recognizing the need to provide farmers and others with up-to-date information on registered pesticide uses, Extension has been working with the Cooperative Extension Service of the Virginia Polytechnic Institute and EPA to develop a computer data system that will provide accurate pesticide registration information. The VPI system can make pesticide registration and use data available to farmers and the public through the County Extension offices.

FARM SAFETY

The farm safety program is in its second year of operation with 32 states obtaining full-time leaders. The remaining states have half-time leaders, with three states in the process of hiring full-time leaders.

The voluntary safety surveys conducted in cooperation with the National Safety Council are proceeding on schedule. These surveys are conducted on a stratified, random sample basis utilizing Homemaker Clubs or Farm Bureau Women as interviewers. Eight states were scheduled for 1975 and the full complement of nine for calendar 1976. Training sessions for program leaders have been held.

While the farm safety program is still new, the accidental death rate per 100,000 farm accidents decreased from 66.5 in 1973 to 62.6 in 1974, the first decrease in several years.

TITLE V, RURAL DEVELOPMENT ACT OF 1972

Utilizing Title V funds, State Land Grant Universities have contributed approximately 147 staff years of professional assistance and 15 staff years of paraprofessional assistance to local governments and informal leaders in defining and solving the problems of rural communities. Ten different Federal agencies and 23 different State Government agencies were involved. In more than one-half the States, industries or organizations from the private sector were also involved. Nearly two-thirds of the States involved more than 30 colleges and universities other than the administering land grant institutions.

Under Title V work, the following kinds of problems were addressed and progress made toward their solutions:

<u>Problem Area</u>	<u>No. of States Reporting Progress or Improvements</u>
Job creation and income improvement	31
Improving employability of local residents	8
Housing	16
Waste disposal, sewer and water systems	9
Educational services and facilities	5
Health/medical services and facilities	9
Transportation services and facilities	6
Land and water use policy/planning	20
Recreation and tourism	8
Other Community services and facilities	6
Local government modernization and improvement	23
Enhancing community viability	20

The kinds of progress or improvements reported range widely for each of the problems areas. Emergency medical services were established for the first time in one county of West Virginia while the physical examination practices of professional nurses serving rural areas were upgraded in Connecticut.

Feasibility studies for locating processing plants were conducted in Michigan while the industrial development skills of local leaders and elected officials were upgraded in Arizona.

The capability of local leaders and elected officials to solve future problems was increased in Indiana while local youth groups in Alabama were given leadership skills essential to obtaining, by cooperative community-wide action, the recreational facilities they needed.

Scattered rural residents in South Dakota were assisted in getting badly needed domestic and livestock water systems while local officials and leaders in South Carolina were assisted in meeting the demands for solid waste disposal systems which will meet federal and state requirements.

More than 300 low income and elderly residents of Maine were assisted in improving their houses while Colorado's self-help housing project provided new homes for low income families (\$7,000 to \$10,000 annual income per family) in two counties of Colorado.

A town was incorporated in New Mexico while sewer and water and ecological area protection districts were organized in several states, and land use policies were under development in others.

1890 INSTITUTIONS & TUSKEGEE INSTITUTE

During Fiscal Year 1975, 1890 Institutions and Tuskegee Institute expended some 260 man-years and made in excess of 4 million contacts with program recipients. Program emphasis consisted of 19.2 percent of the man-years expended in 4-H and youth type projects, 51.3 percent in home economics/family living activities, 20.2 percent in agriculture and natural resources and 9.3 percent in community resource development projects. There was a 38 percent increase in specialists and agent personnel in 1975. The number of such personnel rose from 175 in Fiscal Year 1974 to 242 in Fiscal Year 1975. Program aides numbered some 1,372 in Fiscal Year 1975. Through coordinated programming with the 1862 institutions, significant program successes have been accomplished. Some examples of program accomplishments are as follows:

- a) Nine home management paraprofessionals are employed in six counties in Arkansas to help improve the home and its environment, the nutrition and the resource management practices of homemakers.
- b) In Claiborn County, Mississippi, an 1890 home management paraprofessional worked with 50 families on a one-to-one basis. A workshop on food preservation was conducted and attended by all 50 families. A similar workshop on refinishing furniture was conducted and attended by 52 families. This segment of the State's Extension program is being conducted in 10 Mississippi counties. Twenty-two paraprofessionals work with 1,100 families.
- c) South Carolina uses 1890 funds to provide an educational camping experience for underprivileged youth from 9-16 years of age. Young people are brought in from five counties to have classes in personal hygiene and sanitation, food and nutrition, arts and crafts and industrial arts. This program has the added goal of "community revitalization," where participants are urged to take the information they have learned at the camp back to their homes and communities and become more involved in the community development process.
- d) The progress with the intensified farm planning program carried on in Texas as part of the 1890 component of Extension programs is worth noting. The primary effort has been to work with limited-resource farmers to improve both their income and their socio-economic position in the community. In some cases, income has been increased significantly. The intensified assistance provided by program aides has effectively motivated these low-income farmers. Many of them now participate in the on-going programs where they had not participated earlier.

A unique marketing structure set up in Falls County, Texas has enabled the development of a successful market for small producers. This operation has now been duplicated in Cherokee County, Texas.

DISTRICT OF COLUMBIA COOPERATIVE EXTENSION SERVICE

During Fiscal Year 1975, the Federal City College and the Washington Technical Institute continued to make important strides in combining efforts to serve citizens of the District of Columbia. The D.C. Cooperative Extension Service expended some 40 man years in program activities making approximately 468,000 contacts with program recipients.

The D.C. Extension Service employed some 42 administrative and program specialist personnel and 14 paraprofessionals. The Department has continued to assist the D.C. Cooperative Extension Service prepare itself to conduct programs through the new University of the District of Columbia.

NATIONAL AGRICULTURAL LIBRARY

Purpose Statement

The Organic Act of 1862, establishing the Department of Agriculture, set forth a basic mission "to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of the word," and placed upon the Secretary the responsibility to "procure and preserve all information concerning agriculture which he can obtain by means of books. . . ." The Library was established in the same year by the first Commissioner of Agriculture.

Designated the National Agricultural Library in 1962, the Library works closely with the Library of Congress and the National Library of Medicine to fulfill the functions of a national library for the United States.

The National Agricultural Library provides access to the world's agricultural literature. Both current and historical information is collected and organized for effective utilization by a wide range of users. Library services include reference assistance, preparation of bibliographic files, and loan or photoduplication of library materials.

The library services of the National Agricultural Library are carried out through the main library located at Beltsville, Maryland, and through a branch library in Washington, D.C., which includes the law collection and social science materials.

In addition, several agencies of the Department maintain and finance their own libraries. These libraries are situated at field locations where concentration of work and research staff warrants on-site library services. The Director of the National Agricultural Library prescribes library policy, standards, and procedure for these field library services and exercises such controls as are needed to coordinate services in the Department.

Available Funds and Man-Years
1975 and Estimated 1976 and 1977

Item	Actual		Estimated		Budget Estimate	
	1975		Available, 1976		1977	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
National Agricultural Library ...	\$4,916,000	183	\$5,539,000	192	\$6,034,000	204
Obligations under other than USDA:						
appropriations:						
Agricultural Research Service:						
Special bibliographic						
services	6,000	- -	6,000	- -	- -	- -
Services provided for the						
utilization of space	72,914	- -	81,200	- -	85,300	- -
Food and Nutrition Service:						
Information and Educational						
Materials Center	197,965	5	278,300	5	302,800	6
Forest Service:						
Library services provided for						
the gypsy moth project	- -	- -	6,500	1	3,300	- -
Agricultural Marketing Service:						
Services provided for the						
utilization of space	3,688	- -	9,100	- -	9,400	- -
Working Capital Fund:						
For microfilm and photoprint						
reproduction and magnetic						
tapes	23,929	1	50,000	3	50,000	3
Total, Other USDA Appropriations :	304,496	6	431,100	9	450,800	9
Total, Agricultural Appropriation:						
Bill	5,220,496	189	5,970,100	201	6,484,800	213
Other Federal Funds	-21	- -	41,454	- -	- -	- -
Total, National Agricultural						
Library	\$5,220,475	189	\$6,011,554	201	\$6,484,800	213

	1975	1976	1977
End-of-Year Employment:	<u>Actual</u>	<u>Estimated</u>	<u>Estimated</u>
Permanent Full-time	164	170	170
Other	<u>25</u>	<u>21</u>	<u>20</u>
Total	189	191	190

(a) NATIONAL AGRICULTURAL LIBRARY

Appropriation Act, 1976	\$5,421,000
Budget Estimate, 1977	<u>6,034,000</u>
Increase in Appropriation	<u>+613,000</u>

Adjustments in 1976:

Appropriation Act, 1976	\$5,421,000	
1976 Supplemental Appropriation for pay costs	<u>+118,000</u>	
Adjusted base for 1977		5,539,000
Budget estimate, 1977		<u>6,034,000</u>
Increase over adjusted 1976		<u>+495,000</u>

SUMMARY OF INCREASES
(on basis of adjusted appropriation)

	<u>1976</u>	<u>Increase</u>	<u>1977 Estimate</u>
Acquisition of agricultural books and journals	\$1,504,000	+\$131,000	\$1,635,000
Maintenance of collections	446,000	+169,000	615,000
Retrieval of materials	399,000	+7,000	406,000
Reference and information delivery	456,000	+38,000	494,000
Extension of services	639,000	+19,000	658,000
Facility and maintenance service costs	696,000	+70,000	766,000
GSA space rental costs	159,000	+8,000	167,000
Annualization of the pay cost increase effective in FY 1976	118,000	+53,000	171,000
All other	<u>1,122,000</u>	<u>- -</u>	<u>1,122,000</u>
	<u>\$5,539,000</u>	<u>+\$495,000</u>	<u>\$6,034,000</u>

PROJECT STATEMENT
(on basis of adjusted appropriation)

Project	: 1975	: 1976 (Estimated):	: Increase	: 1977 (Estimated)
1. Agricultural Library services for research and education:	:\$4,887,654:	\$5,539,000 :	+\$495,000 (1):	\$6,034,000
Unobligated balance	28,346:	- - :	- - :	- -
Total available or estimate	: 4,916,000:	5,539,000 :	+\$495,000 :	\$6,034,000
Proposed supplemental for pay increase costs	: - - :	-118,000 :		
Total, appropriation	: \$4,916,000:	\$5,421,000 :		

EXPLANATION OF PROGRAM

The research and educational activities of the National Agricultural Library are authorized by the Organic Act of 1862, which established the Department of Agriculture. That Act stipulated a basic mission "... to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture and in the most general and comprehensive sense of that word..." and charged the Secretary with the responsibility "to acquire and preserve in his department all information concerning agriculture which he can obtain by means of books...". The Library was established that same year by the Commissioner of Agriculture and was designated the National Agricultural Library on March 23, 1962, in Secretary's Memorandum No. 1496.

Acquisition of agricultural materials continues to be a major activity in carrying out the mission of the Library. Other primary activities for fiscal year 1976 are as follows:

<u>Types of Activities</u>	<u>Estimated Productivity</u>
Addition of serial issues	217,000
Titles cataloged	15,000
Articles indexed	124,000
Loans and photocopies provided	192,000
Reference inquiries answered	30,000
Information packages prepared	780

Serial publications are recognized as a valuable source of information on current and recently completed research. Heavy emphasis is placed, therefore, on the development of a comprehensive current serial collection.

A major objective of the Library's program in bibliographic control is to organize and announce agricultural publications so that they can be used. The Library catalogs books and journals newly acquired for the collection and indexes journal articles, conference proceedings, and reports carefully selected from the world's publishing output for their meaningful information on agricultural research. Bibliographic records of these publications are added to the computerized CAIN (Cataloging and Indexing) data base. From this data base, information is disseminated in a variety of ways. It is accessible through commercial online services. It is also available in printed products, notably the commercially published Bibliography of Agriculture, a monthly index to agricultural literature, and the National Agricultural Library Catalog, a monthly record of books and journal titles recently added to the collection.

Resources of the NAL collection are made available through direct loan, inter-library loan of books, and photocopy of documents, primarily journal articles. Literature requests of USDA field employees in several areas of the U.S. are processed with the cooperation of the land-grant university libraries. The resources of these libraries are used first by field employees, with NAL serving as back-up.

Further exploitation of collection resources is developed through reference inquiries and information packages. Reference inquiries are subject matter questions requiring more than 5 minutes, but less than 4 hours of professional effort to research and answer. Information packages are prepared by NAL in response to requests for technical information. These information packages include a bibliography, a collection of documents, a literature survey, or advice and assistance which require more than four hours to prepare.

In addition to the above, NAL must also provide for preservation of the collection. Preservation involves the microfilming or restoration of important research materials that are deteriorating because of poor quality paper, unbound condition, or age. Materials selected for preservation include USDA documents, unbound serial issues, newspapers, and rare books.

JUSTIFICATION OF INCREASE

(1) An increase of \$495,000 for National Agricultural Library services for research and education consisting of:

- (a) An increase of \$53,000 for annualization of pay increases effective in F.Y. 1976.
- (b) An increase of \$8,000 for space rental costs pursuant to P.L. 92-313.

Pursuant to P.L. 92-313 the Agency is required to budget for costs associated with occupied GSA controlled space. The 1976 Appropriation Act again limited the Department to paying 90 percent of the standard level user charge used in computing the 1976 request.

The funds requested in 1977 Budget would restore the full financing necessary to meet estimated billings provided by the General Services Administration.

- (c) An increase of \$131,000 for acquisitions of agricultural materials (\$1,532,000 available in 1976).

Need for increase: NAL holds a national responsibility for acquiring and making readily available the world's agricultural literature. A leadership and coordination role by NAL toward building a collection of books, journals, and other materials with related agricultural libraries and land-grant institutions within the United States is needed. The possibility of increasing the availability of books and journals while at the same time reducing unnecessary duplication within the collections of these institutions, is a continuing interest of the Library.

The cost of acquiring agricultural books and journals has risen steadily in recent years. These increased costs apply to both domestic and foreign publications. In order to acquire books and journals for the NAL collection at the same rate as this past year, an increase of 11% of the book budget is required (\$68,000).

Both the National Agricultural Library and the Office of the General Counsel contribute to the support of the Department's Law Library. NAL provides the space and staff, but both agencies contribute to the book budget. In recent years, the need for NAL budgetary support has grown steadily. In F.Y. 1972-1974, NAL provided for slightly more than 10 percent of this budget, and more than 20 percent in F.Y. 1975. The required support from NAL in F.Y. 1976 is expected to exceed 25 percent. It is now necessary to ask for separate funds for this purpose. Assuming that NAL will be covering 30 percent of this budget in F.Y. 1977 (estimated \$110,000), the Library is requesting \$33,000 for the purchase of books and journals by the Law Library.

In recent years, the acquisition of USDA publications has become a very complex and difficult procedure. New sources of Departmental publications, scattered throughout the nation, are being discovered constantly. Unfortunately, knowledge of their existence frequently occurs some time after various important documents have been already published and have since become unavailable. Departmental staff, governmental officials and the agricultural community as a whole look to NAL as the final and complete repository for these publications. The increasing problems in acquiring and controlling access to these materials have made it impossible to maintain a reasonably complete collection of USDA publications without an increase in staff positions. The Library is requesting \$30,000 to insure a comprehensive collection of these valuable Departmental publications.

Plan of work: The requested increase would allow the Library to acquire materials, including law materials, at current prices as they are published. A part of the requested increase would provide for two librarians to insure the acquisition and processing of USDA publications.

- (d) An increase of \$169,000 for the maintenance of collections (\$560,000 available in 1976).

Need for increase: Throughout its history, NAL's holdings have been growing at an ever increasing rate. There is a need to increase the rate of protection of this collection by all practical preservation techniques to prevent loss of material and reduction of the accessibility to research materials necessary for the programs of the Department and the agricultural community.

These collections are maintained for loan to USDA personnel, other government personnel, and the public; items not loaned are made available by photocopy or film. Preservation programs are designed to provide for future use of library materials by the storage of books, papers, and films under exacting environmental conditions, and by restoring or microfilming those items which are deteriorating.

During F.Y. 1975, binding costs increased 30% per bound volume for general works over costs of the previous year. This is attributable to two major influences: 1) A substantial increase in cost per volume bound to previous specifications, and 2) the revision upward of the technical specifications of the volumes bound. The Library of Congress allowed NAL to utilize its binding contract arrangements in order to overcome some continuing contract problems. The more stringent specifications were better suited to our needs and provided a superior quality binding, required less quality control upon return of the materials, and presented far fewer binding errors. We believe that the added cost was worth the investment. The Library is requesting an increase of \$78,000 for this purpose.

The rapid rate of aging and deterioration of the book and journal collections continue. The need for restoration has been met in the past with funds for the binding and restoration of older and rarer volumes at a high cost, plus the microfilming of volumes of which the paper is too brittle to be saved. Approximately 180 rare volumes were restored in F.Y. 1975, but we are not keeping up with the current rate of deterioration. Approximately 170 additional rare volumes should be restored each year or they will be beyond recovery. This will require an increase of \$17,000.

An increasing number of valuable volumes is reaching the age and condition when decisions must be made to preserve them in their original form or on microfilm. Skilled technician help is required to identify these volumes and initiate the several steps required to restore, to prevent or decelerate deterioration or to copy the selected materials. Otherwise,

the condition of many historically and scientifically valuable and, in a few cases, irreplaceable materials will continue to deteriorate and NAL will be unable to provide access to many rare publications. An increase of \$11,000 is requested for this purpose.

The increasing workload in the stack maintenance section will make it impossible for the present personnel to continue the work of preparation of materials for the microfilming program. Therefore, we find it necessary to ask for a technician to identify the materials to be filmed, check the bibliographic records, prepare filming targets, collate pages, and support the management of the contract. In addition, it is anticipated that inflationary costs will increase the contract costs by \$5,000 in F.Y. 1977 to maintain the 500,000 frame program target. Technicians will also be increasingly employed in maintaining our rapidly growing store of microforms. Our own microfilming program and the accumulating and increasing number of publications being acquired in microform have resulted in a collection which can no longer be kept in order and made accessible to our patrons by present staff. This collection now consists of 8,000 reels of roll film and 125,000 sheets of microform. It is expected to grow by no less than 50% during F.Y. 1976. To provide proper storage and rapid, convenient access to this collection, a storage system and a storage room should be installed. This will be a small, environmentally controlled room, where conditions can be maintained in conformance with American Standards Association (ASA) standards for storage of microfilm. An increase of \$63,000 is requested for these purposes.

Plan of work: This increase would provide for five technician positions to meet the workload related to the preservation of the collection. The increase also would provide for the increased costs of binding and the binding of an additional 170 titles of rare books. A part of the requested increase would provide for the increased costs of microfilming, establishing a storage room for microform masters to arrest deterioration, and for the microform storage system.

- (e) An increase of \$7,000 for the retrieval of materials (\$420,000 available in 1976).

Need for increase: The availability of scientific reports and data is an essential ingredient of successful research. USDA managers and scientists, as well as their counterparts in universities and research installations, are charged with the mission of developing and improving the world's agricultural resources. NAL is responsible for providing document services to support this task.

A pertinent document delivered to a user may serve several purposes. For example, it can reduce unnecessary duplication of research effort, suggest new leads in experimentation, or provide information for a quick response to a crisis, such as APHIS veterinarians' need for information on Venezuelan equine encephalomyelitis (VEE). The Library normally receives three or four requests per year for special help with major emergency programs.

While such emergencies occur in locations or areas throughout the country, the Library's delivery service frequently is channeled through or is used by the technical and administrative staff here in the Washington area who provide support for field personnel.

Most requests are filled by supplying photocopy rather than by lending the original document. There is a physical limit to the number of pages which an operator can reproduce on a copying machine during a normal work day. A backlog of material continues to increase in proportion to the increase in requests. To absorb the

burden of expanding photoduplication requests, the requested funds are necessary to assure the Library's fulfillment of its responsibility for providing the document services which support agricultural research.

Plan of work: This increase would provide for one photocopy machine operator to handle the increasing work load.

- (f) An increase of \$38,000 for reference and information delivery (\$511,000 available in 1976).

Need for increase: NAL maintains agricultural reference collections at the Beltsville Library, at the D.C. Branch and Law Libraries in Washington, and at the National Arboretum. The volume of reference questions is determined by the users of the Library. Their level of need is in turn determined by the research programs of the USDA and the domestic and international agricultural research community. Since it is Library policy to respond to all inquiries, the quality and completeness of the answers are directly related to available human resources, augmented by automated searching tools.

Slightly over 30,000 reference questions have been received and answered annually during the past two years. The bulk of these questions, about 98 percent of the total, are answered quickly and at minimum cost. 70 percent of the total inquiries require about 5 minutes of professional time to answer, on the average. Another 28 percent use from 20 to 120 minutes. The remaining 2 percent of the inquiries require extensive effort on the part of one or more librarians to identify citations and their location. These responses result in information packages and/or bibliographies. The work input to produce these packages averages 9 hours per package. 720 of these packages were produced in F.Y. 1975; 780 will be prepared in F.Y. 1976 and it is anticipated that 850 will be required by F.Y. 1977.

The preparation of an information package requires the active participation of a professional librarian or technical information specialist to interface with the researcher or research team, one who can determine the needs and judge what the composition of the package should be.

Plan of work: The requested increase would allow for three positions to meet the increased demands for information package delivery and to provide increased on-line searches of the computerized data files available.

- (g) An increase of \$19,000 for extension of services (\$663,000 available in 1976).

Need for increase: The National Agricultural Library as a service agency cannot control the number of document requests coming to it, nor can it influence the type of requests submitted. These depend upon and vary with the research programs and activities of the USDA and the outside agricultural community.

The USDA Regional Document Delivery System, operating in 19 states and

grouped in regions, is providing an efficient, economical, and speedy service to USDA personnel at locations remote from Washington, D.C. During the last fiscal year, photocopies for documents delivered by land-grant libraries for NAL on a reimbursable basis increased from 13 to 17 thousand. In a like manner, the overall numbers of documents or photocopies supplied directly to USDA field locations by NAL increased by 15% in two years. Because of this increase and despite the document delivery services provided by the land-grant libraries, there is need for additional manpower to process the more difficult requests received at NAL.

Plan of work: This increase would provide two positions to maintain production of document delivery for USDA field personnel.

- (h) An increase of \$70,000 for facility and maintenance service costs (\$696,000 available in 1976).

Need for increase: Since the opening of the NAL building in 1970, there has been no request for fund increases for the basic services of cleaning, elevator maintenance, building equipment and supplies, natural gas, water and sewage, electricity, fuel oil, GSA vehicle rental, or telephones. The increase from F.Y. 1970 to F.Y. 1976 has been absorbed from program funds.

The NAL building belongs to the Department and was built from Departmental funds. All maintenance is provided by the NAL staff or by contract. Savings have been realized by the installation of an automatic engineering surveillance system and a video security system. Water and sewage increases were kept to a minimum by the introduction of a mechanical device on the air conditioning equipment.

The cost of electricity has gone up in this five year period. Despite the addition of several pieces of electrical equipment such as cathode ray tubes and photocopy machines, our actual consumption has been cut 25%. The cost of electricity has risen faster than our ability to increase efficiency by better usage. Fuel oil has risen from 12¢ a gallon to 48¢ during this time period. Even though we have reduced oil consumption by 55%, this is insufficient to offset the four-fold increase in fuel costs.

Increased telephone costs resulted largely from direct, increased phone charges for basic services, and from expanded on-line computer systems and more flexible phone installations.

NAL eliminated its health unit as a result of the squeeze on facility service costs, and has adjusted its vehicle and shuttle services in order to cut costs. We have reduced our own working spaces in order to receive rental reimbursements.

Plan of work: This increase would provide for the increased costs for services needed for the maintenance of the NAL building at Beltsville, Maryland.

NATIONAL AGRICULTURAL LIBRARY
STATUS OF PROGRAM

The National Agricultural Library collects agricultural information world-wide and provides it to researchers within the Department of Agriculture and to scientists, students, and other individuals in agricultural colleges and universities, industry, and throughout rural America.

Current activities: The Library is responsible for all library-related resources and services in the Department of Agriculture and administering its unique collection of books, journals and other information materials in such a way as to sustain and expand the nation's wealth of knowledge in the agricultural sciences.

The Library acts as a focal point for the Department in the development of cooperative efforts in the library and related information areas with other Federal agencies and with educational institutions in each state.

The Library continually seeks to meet the growing information needs of a wide variety of users through the application of new technology and the development of an outstanding collection of library materials.

Selected Examples of Recent Progress:

NAL Citation Data Base: The bibliographic records for cataloged titles and indexed articles from 1970 have been machine recorded monthly in a data base called CAIN (Cataloging and INDEXing). Records from the CAIN data base were made accessible in mid-1973 through several commercial on-line services. More than 700,000 bibliographic citations can now be searched, making agriculture one of the largest files available on-line. NAL is actively encouraging the use of CAIN by USDA Field Libraries. Within NAL, use of CAIN on-line has reached over 300 searches each month. Use outside the USDA continues to increase.

NAL sponsored a pilot project at the USDA-ARS Northern Regional Research Laboratory Library in Peoria, Illinois, in using on-line retrieval systems. Formal basic training was provided in the operation of Lockheed "Dialog" and Systems Development Corporation (SDC) "ORBIT" systems use. Users were encouraged to be present during search operations and assist in (1) identification of keywords, (2) formulation of initial search results, and (3) validating research results. Users conducted (89) searches during a 2½ month period with a total of 3,224 references retrieved with 1,612 estimated pertinent references found which were directly applicable to their research or particular problem. Questionnaires from users revealed that most respondents felt the on-line retrieval service saved them considerable time (0-80 hours with 9.7 average hours per user) and was very valuable. The convenience and speed of the systems were cited as the greatest advantages.

Meetings have been held with representatives of the USDA Economic Research Service, and the American Agricultural Economics Documentation Center on including the latter's bibliography as an integral part of the CAIN data base. Efforts are underway to make this data base available to CAIN users by April 1, 1976.

Other Data Bases: The same commercial on-line services which provide access to CAIN and Food and Nutrition Information Center (FNIC) files provide other files for NAL users. These files include TOXLINE and MEDLINE (National Library of Medicine); the National Technical Information Service (NTIS) file, Educational Resources Information Center (ERIC) files; COMPENDEX (Engineering Index); Biological Abstracts (BIOSIS) and Chemical Abstracts. Arrangements were also made with the New York Times Company for on-line access to their information bank.

Other Automation Activities: NAL is participating with Federal and other research libraries in adding bibliographic citations to the Ohio College Library Center (OCLC) on-line file. NAL uses Cathode Ray Terminals (CRT's) to search the OCLC file of over one million cataloging records. If some other library has already cataloged an item which NAL is just obtaining, this bibliographic record is used or modified to suit NAL's needs. If not already in the file, NAL can enter its own cataloging data on-line. Every two weeks OCLC sends magnetic tapes containing our catalog

records, which we convert by computer for inclusion in our CAIN file. This system seems to offer the best promise of an automated, national cataloging program and could substantially reduce our cataloging costs. Pilot programs have been sponsored by NAL with the ARS Eastern Regional Research Laboratory Library in Philadelphia, Pennsylvania, and the Southern Regional Research Library in New Orleans, Louisiana, in extending OCLC access. Pilot cost sharing of OCLC system use for an experimental period of six months to determine feasibility and mutual benefits is underway.

The Serial Titles Automated Records (STAR) data base of 26,000 serials (current and inactive) produces serial listings of the entire NAL serial file or selected subsets. The STAR system also produces renewal subscription orders (with vendor name and addresses) and special listings of purchase continuations. NAL has disseminated information about its serials to the USDA field libraries in the form of computer printouts, COM (computer-output-microfiche) and a published keyword index entitled Serials Currently Received by the National Agricultural Library, 1974. In addition, NAL has begun pilot activities with branch and field libraries (the U.S. National Arboretum and the Plum Island Animal Disease Laboratory libraries) to record the serials they currently receive. For both we have prepared a list of serials received that are already listed in the STAR data base.

AGRIS: The Library contributed 6,164 records of U.S. journal articles for publication in the first volume, 1975, of Agrindex, the monthly index produced by AGRIS, the international agricultural information system sponsored by FAO. Input for 1976 is expected to be 12,000 citations. A study is underway to determine the feasibility of adding input from other AGRIS centers to the CAIN data base. If this proves feasible, the Library would discontinue indexing the documents covered by other centers and extend coverage of U.S. publications accordingly. Continued participation depends on the ability to exchange data and the quality of the AGRIS-supplied data if the Library is to avoid degradation of its bibliographic services.

Networks: Since 1974 we have expanded our document delivery service with land-grant libraries to include coverage in nineteen states. The land-grant libraries serve as initial contact points and suppliers of documents to USDA personnel in their states. USDA employees in Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina are covered by the land-grant libraries in their states, with regional referral to the University of Georgia Library. All unfilled regional requests are referred to NAL by airmail letter or teletype from the regional coordinating library. Texas A & M University is a regional resource with Louisiana, interacting New Mexico and Oklahoma. Arizona, California, Hawaii, Oregon, Washington, and part of Idaho are similarly covered by land-grant university libraries with regional coordination through the University of California, Davis. On December 1, 1975, five additional states began this document delivery arrangement: Minnesota, Nebraska, North Dakota, South Dakota and Wisconsin. The regional coordinating land-grant library is the St. Paul Campus of the University of Minnesota. Payments for services in all cases include a verification fee, the usual photocopy charges, referral service, mail and communications as negotiated with each institution. The National Agricultural Library is pleased with the response of the land-grant libraries and librarians in providing this service.

The concept of cooperative microfilming of state land-grant agricultural serials was implemented in 1974 and the first filming was completed December 1, 1975 for the six New England land-grant universities. The filmings cover serial files of colleges of agriculture, experiment stations, and some extension services, from inception through 1969. Each land-grant library matched NAL funds for a sharing of costs on this filming. The New England Board of Higher Education acted as the contracting agent for the seven cooperating institutions.

In similar shared-cost methods, filming is now underway or under contract negotiation for California, Florida and Kentucky. NAL anticipates a continuation of this plan by working with the Southeastern land-grant publications.

Much of the interaction with land-grant libraries during FY 1975 and 1976 has been in the implementation of computerized on-line literature services, primarily in utilization of the NAL citation data base (CAIN) by agricultural researchers and others in need of this service. As of December 1975, approximately 26 land-grant universities were subscribers to one of the two commercial services offering on-line interrogation and retrieval from our CAIN file. This electronic network has been very successful and provided a return to systematic literature utilization by many who had abandoned the printed record because of its cumbersomeness and volume. This amounts to a quantum jump in literature utilization by agricultural researchers and students, and a more efficient research effort.

Grants: No grants were made during Fiscal Year 1975. However, several grants from previous years are still in operation. Two doctoral students at Rutgers University provided working papers on their research into 1890 land-grant library needs, standards and institutional accreditation procedures as they affect libraries. A similar grant provides two seminars for the 1890 land-grant librarians whose detailed funding needs and methods provide agricultural literature and information services to 1890 researchers. This interchange with the research coordinators has proven beneficial in establishing new and much needed assistance.

Prairie View A & M University continued work on earlier grant funds to test the feasibility, and to implement when possible, an information and literature service in the area of human nutrition of Southern rural people. This long-term commitment by Prairie View is proceeding with care and thorough deliberation. Final documentation was prepared by the University of Wisconsin, Steenbock Library, of its investigation of abstracting and indexing coverage of forestry, environmental, and pollution literature. This is an excellent research job, and has returned some valuable data which can be used in realigning our indexing coverage and practices.

Eight land-grant institutional libraries were given small grants in Fiscal Year 1974 to assist in introducing on-line literature retrieval services utilizing the NAL citation data base, CAIN. Those institutions are Auburn University; University of Arizona; Colorado State University; University of Minnesota, St. Paul; University of New Hampshire; North Carolina State University; Pennsylvania State University and Washington State University. All of these institutions looked at a distinct research question connected with the utilization of the CAIN file on-line, and introduced the service on a test basis to agriculturalists and students on their campuses. The results have been very positive and all have continued the service on their own funds or on a reimbursable basis.

US-USSR Secretariat: NAL is continuing to participate in the Inter-Library Exchange Project under the US-USSR Agreement on "Cooperation in the Field of Agriculture." In December 1974, NAL received and coordinated a two-week visit of a two-man Soviet team sent to the U.S. to study the CRIS and CAIN on-line information systems. In March 1975, NAL sent a representative to the USSR to clarify and augment the existing exchange of publications between the Library and the Central Scientific Agricultural Library in Moscow and various other institutes of the USSR Ministry of Agriculture. Through the Inter-Library Exchange Project, the exchange of publications has improved and the Library has acquired an additional 55 new serial titles from 39 different scientific research institutes through the Central Scientific Agricultural Library, and has requested another 100 titles. In turn, NAL has enlarged its mailing list to the Central Scientific Agricultural Library for a total of 134 USDA publications of which 69 are being forwarded, 5 copies each. NAL has responded to a request from the All-Union Scientific Research Institute on Agricultural Statistical Administration for 19 publications. NAL's goal is to augment its collection of scientific

publications from the USSR and fulfill the requirements of USDA researchers and economists for this material. In time, NAL also hopes to investigate the possibility of information exchange through other media, such as machine-readable data bases.

Nursery and Seed Trade Catalog Collection: Interest in preserving and increasing the use of this unique collection has been maintained. A listing of all our U. S. holdings through the mid 1950's has been prepared for us by the Library of Congress from our index file cards. This amounts to 2,560 pages of material, and, because of its size, it will be duplicated in a very limited number of copies and distributed to arboreta, libraries or botanic gardens also holding major collections of this type of material. They are planning to check their holdings through 1920 and record additional items. In this way a union list of all U.S. catalogs issued through 1920 and still in existence will be built. When this is done, the plans are to enter the records on a computer system, organize, duplicate and make accessible all holdings. At this point we will also be in position to initiate a microfilming project to preserve these catalogs and distribute them at reasonable cost to all centers needing them.

OTHER HIGHLIGHTS

The Memorandum of Understanding between NAL, Economic Research Service, Statistical Reporting Service and the American Agricultural Economics Association was renegotiated. The new agreement will result in the termination of the publication of the American Bibliography of Agricultural Economics. However, all the material now included in the publication and all current material will be incorporated in the Library's CAIN system and eventually will be made available through commercial on-line services.

The Tri-Agency Reading Room in 500 12th Street Building is now staffed and has resulted in greatly improved service for the Economic Research Service, the Farmer Cooperative Service and the Food and Nutrition Service.

Orientation Training: As a result of our own contracts with users and the Capital Systems Group study report of October 15, 1974, we had become acutely aware of a lack of knowledge in USDA personnel of the facilities and services of NAL. We therefore developed orientation courses both in Beltsville and the D. C. Branch. The Beltsville sessions have reached 405 participants from the research center and other research installations within one day's travel of the Library. The D. C. Branch sessions have reached 126 USDA staff and has provided training for about 25 foreign students on a USDA Graduate School program and about 20 Departmental management interns.

In addition to the continued high standard of library service provided at the Arboretum, several orientation programs have been conducted for all levels of personnel employed there.

Food and Nutrition and Educational Materials Center: The Center completed its second year since becoming fully operational July 1973. In Fiscal Year 1975, 27,895 contacts were made through talks and displays at State School Food Service Conventions, professional association workshops and seminars, and mailing list. This wide exposure to the Center's present and potential users has created an awareness of services available.

PUBLICATIONS

A newsletter - Agricultural Libraries Information Notes - was inaugurated January 1975. This is a monthly publication designed to channel communications between NAL and workers in the agricultural sciences and technologies.

Oryx Press, Scottsdale, Arizona, took over publication of the Bibliography of Agriculture January 1975 from the Macmillan Publishing Company. The Bibliography is produced from magnetic tapes created monthly by the NAL in the process of generating its CAIN (CATaloging and INdexing) data base.

Supplement 2 of the Food and Nutrition Information and Educational Materials Center Catalog was issued May 1975. In July, the Center published a Cumulative Index to its Catalog. An Index to the Proceedings of Ten USDA Land-Grant University Seminars for Food Service Supervisory Personnel 1969-1970-1971 was published and distributed in January 1975.

In the Library List series NAL issued Food Service Programs for Children: an Annotated Bibliography.

A revised edition of the Audiovisual Guide to the Catalog of the Food and Nutrition Information and Educational Materials Center was released January 1975.

A brochure, CAIN on-line, describing the literature retrieval services of the Library was published in April 1975 and has been widely distributed among users of our services.

One of our most significant publications is the 1-volume Serials Currently Received by the National Agricultural Library, 1974 listing over 15,000 journals, periodicals, and other types of serial publications.

The following is a geographic breakdown of obligations and man-years by location:

	<u>1975</u>		<u>1976</u>		<u>1977</u>	
	<u>Amount</u>	<u>Man Years</u>	<u>Amount</u>	<u>Man Years</u>	<u>Amount</u>	<u>Man Years</u>
Washington, DC	\$ 409,000	15	\$ 482,000	17	\$ 527,000	17
Beltsville, MD	<u>4,478,633</u>	<u>168</u>	<u>5,098,454</u>	<u>175</u>	<u>5,507,000</u>	<u>187</u>
Total, National Agricultural Library	\$4,887,633	183	\$5,580,454	192	\$6,034,000	204

(b) Library Facilities

PROJECT STATEMENT

The following statement reflects estimated obligations on the basis of available funds:

Project	1975	1976 (estimated)	Increase or Decrease	1977 (estimated)
1. Plan, construct and partially furnish and equip facilities (obligations)	-\$21	\$41,454	- -	- -
Unobligated balance available, start of year	-41,433	-41,454	- -	- -
Unobligated balance available, end of year	41,454	- -	- -	- -
Total available or estimate	- -	- -	- -	- -

Funds for the preparation of plans, specifications and drawings for new facilities were appropriated in 1964.

Funds were appropriated in fiscal year 1966 for construction of the new library at Beltsville, Maryland. The construction contract was awarded in November 1966. The cornerstone of the building was laid on September 28, 1967. During fiscal year 1969, the building was accepted by GSA as "substantially completed" and the Library staff and collection were transferred to the new building between May 15, 1969, and June 15, 1969. The new building was accepted by GSA as "completed" on October 7, 1971.

The balance brought forward into 1976 was used for the sealing of the windows and of the brick on the exterior of the building, which was not done at the time the building was constructed.

ECONOMIC MANAGEMENT SUPPORT CENTER

Purpose Statement

The Economic Management Support Center (EMSC) was established pursuant to Secretary's Memorandum No. 1836, dated January 9, 1974. It provides consolidated and centralized management support services to the Agricultural Economics agencies of the Department. The principal objectives are to improve the timeliness and effectiveness of program operations of the agencies served through improved utilization of management manpower and techniques, increased specialization of professional skills, and more extensive use of timesaving equipment.

The consolidated management support services include budget, financial management, personnel and related programs, administrative services and general management assistance. These services are primarily financed by direct appropriation and reimbursements. To the extent that the agencies served perform work on a reimbursable basis, EMSC is also reimbursed for the related support services required.

These centralized services are provided to the Statistical Reporting Service, Economic Research Service, Farmer Cooperative Service, and the Economic Management Support Center by a staff of approximately 134 located entirely in Washington, D.C.. The four agencies serviced are headquartered in Washington, D.C. and have 80 field offices located in 46 states.

Available Funds and Man-Years
1975 and Estimated, 1976 and 1977

Item	Actual		Estimated		Budget Estimate	
	1975		Available, 1976		1977	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Economic Management Support Center:						
Salaries and expenses.....	\$2,852,500	126	\$2,774,000	122	\$2,805,000	122
Deduct allotments to other agencies.....	-173,000	-9	- -	- -	- -	- -
Net.....	2,679,500	117	2,774,000	122	2,805,000	122
<u>Obligations under other</u>						
<u>USDA appropriations:</u>						
Special economic studies performed by the Economic Research Service for other agencies on a reimbursable basis.....	49,913	2	55,500	2	55,500	2
Special crop and livestock studies and data processing services performed by the Statistical Reporting Service for other agencies on a reimbursable basis....	118,534	5	179,000	8	179,000	8
Working Capital Fund:						
Centralized supply, duplicating, data processing, and other services carried out by EMSC.....	176,500	10	- -	- -	- -	- -
Miscellaneous reimbursable services.....	13,688	1	13,800	1	12,300	1
Total, Other USDA Appropriations.....	358,635	18	248,300	11	246,800	11
Total, Agriculture Appropriations.....	3,038,135	135	3,022,300	133	3,051,800	133
Other Federal Funds.....	193,400	7	207,000	7	207,000	7
Total, Economic Management Support Center a/	3,231,535	142	3,229,300	140	3,258,800	140

End-of-Year Employment:	1975	1976	1977
	<u>Actual</u>	<u>Estimated</u>	<u>Estimated</u>
Permanent full-time...	138	134	134
Other.....	4	10	10
Total.....	<u>142</u>	<u>144</u>	<u>144</u>

a/ FY 1975 column adjusted for comparability to exclude \$61,500 for management support services for the Packers and Stockyards Administration. FY 1975 amounts included under the appropriation item "Office of the Secretary" and FY 1976 amounts included under the appropriation item "Departmental Administration".

Economic Management Support Center

Appropriation Act, 1976 a/.....	\$2,755,000
Budget Estimate, 1977.....	2,805,000
Increase in Appropriation.....	<u>+50,000</u>

a/ FY-1976 amount included in the appropriation "Departmental Administration".

Adjustments in 1976:

Appropriation Act, 1976.....	\$2,755,000	
Activities transferred to the Agricultural Marketing Service b/	-64,000	
1976 Supplemental Appropriation for pay costs	<u>+83,000</u>	
Adjusted base for 1977.....		2,774,000
Budget estimate, 1977.....		<u>2,805,000</u>
Increase over adjusted 1976.....		<u>+31,000</u>

b/ Pursuant to Memorandum of Agreement dated August 15, 1975 and FR Doc. 75-32743 filed December 3, 1975, management support functions for the Packers and Stockyards Administration were transferred from this account to the Agricultural Marketing Service. Actual transfer of funds of \$36,000 was made in FY 1976.

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	<u>1976</u>	<u>Increase</u>	<u>1977 Estimate</u>
GSA space rental costs.....	\$197,000	+\$3,000	\$200,000
Annualization of the pay cost increase effective in FY 1976.....	83,000	+28,000	111,000
All other.....	<u>2,494,000</u>	- -	<u>2,494,000</u>
Total available.....	<u>2,774,000</u>	<u>+31,000</u>	<u>2,805,000</u>

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	: 1975	: 1976 (estimated)	: Increase	: 1977 (estimated)
1. Management support services....	\$2,439,088	\$2,774,000	+\$31,000(1)	\$2,805,000
Unobligated balance.....	240,412	- -	- -	- -
Total available or estimate.....	2,679,500	2,774,000	+31,000	2,805,000
Transfer to ARS and REA.....	+173,000	- -		
Transfer to AMS.....	+61,500	+64,000		
Proposed Supplemental for pay increase costs.....	- -	-83,000		
Total, appropriation.....	<u>2,914,000</u>	<u>2,755,000</u>		

EXPLANATION OF PROGRAM

Management support services are provided on a consolidated and centralized basis to the Agricultural Economics agencies of the Department for greater economy and effectiveness in the rendering of management service and advice through improved utilization of manpower and management techniques, increased specialization of professional skills, and more extensive use of timesaving equipment. These services include budget, financial management, personnel and related programs, administrative services, and general management assistance.

The Economic Management Support Center provides services to the Statistical Reporting Service, Economic Research Service, Farmer Cooperative Service, and the Economic Management Support Center. These agencies served present a widely varied pattern of programs, professional skills, organizations, and geographical locations. Programs cover a broad range of activities. These include the gathering and reporting of

agricultural statistics, economic research, and assistance to farmers' cooperatives. Professional technical skills include statisticians, mathematicians, management analysts, systems analysts, economists and accountants.

Organizational and geographical diversity is indicated by the serving offices in Washington and various field staffs at approximately 80 locations.

The following is an indication of the total number of agency man-years for which management support services are provided:

	<u>FY 1975 Actual</u>	<u>FY 1976 Est.</u>	<u>FY 1977 Est.</u>
Agency Man-Years	2,976	3,039	3,138

JUSTIFICATION OF INCREASES

- (1) An increase of \$31,000 for management support services consisting of:
 - (a) An increase of \$3,000 for space rental costs pursuant to P.L. 92-313.
 - (b) An increase of \$28,000 for annualization of pay increases effective in FY 1976.

STATUS OF PROGRAM

The Economic Management Support Center (EMSC) was established by Secretary's Memorandum No. 1836, dated January 9, 1974. It provides consolidated management support services to the following Agricultural Economic agencies of the Department:

Statistical Reporting Service
Economic Research Service
Farmer Cooperative Service
Economic Management Support Center

These support services include budget, financial management, personnel and related programs, administrative services, and general management assistance.

Program activities of the agencies served include the gathering and reporting of agricultural statistics, economics research, and assistance for farmers' cooperatives. Organizational and geographical diversity is indicated by the services provided both in Washington and to the various field offices at approximately 80 locations.

The Economic Management Support Center plays a positive role in management support of the agencies served. This includes designing and operating internal systems appropriate to each agency for financial, personnel, property and records management; providing professional management advice to agency personnel; and relieving agency personnel of as much of the details of administrative services as possible, recognizing that the final management responsibility rests with the program officials in the agencies served.

The Economic Management Support Center is organized into three operating divisions:

1. Administrative Services Division - which is responsible for providing purchasing; contracts and agreements; property and space management; paperwork analysis and records systems; directives; forms and reports analysis; word processing; microfilming; facsimile transmission; mail and mailing list services.

2. Budget and Finance Division - which is responsible for providing the budgetary and financial management services. These include formulation, presentation and execution of budgets; legislative services; financial management and analysis; developing internal financial systems and procedures; and advisory services on fiscal and accounting matters.

3. Personnel Division - which is responsible for the personnel management services. These include employee recruitment, classification, placement, and training; organization and position management; employee development and relations; and employee security and related matters.

Selected Examples of Recent Progress:

In its major functional areas, EMSC provides the necessary support to the agencies served as represented by the following:

1. Internal procedures and records were established to implement the provisions of the Public Buildings Acts related to the Federal Building Fund (Standard Level User Charge). This required many hours of direct effort plus additional administrative time for records maintenance and reports.
2. Contractual Arrangements. A new contractual arrangement was established to provide repair and maintenance service for equipment. This involved consolidation of all repair calls to the service contractor. The procedure requires that agencies report by telephone to the Personal Property Unit each day all repair needs. These calls are grouped by type of repair service and then a service call is made to the appropriate service contractor. This method significantly reduced the average cost and time lapse in obtaining service.

3. Records Management. The need for South Agriculture Building attic storage space for records and reference documents was reviewed in FY 1976. Present needs will be reduced by disposing of all obsolete documents, transferring retain records to the Washington National Records Center, and consolidating retained reference material. Stricter reviews of all new requests for attic storage space will reduce future needs. Present space requirements for EMSC and serviced agencies is expected to be reduced by approximately 4,000 square feet.
4. Management Analysis. Records systems and analysis was expanded from paper-work management analysis to include a broader scope of management analysis assistance. This scope now covers cost reduction, work simplification, methods and procedure analysis of administrative operations, and other similar management analysis disciplines. The first assignment completed was a top to bottom review of the administrative services support practices in the Economic Research Service.
5. Personnel Management Evaluations. A three year cyclic program of personnel management evaluations was scheduled for the Statistical Reporting Service at the end of fiscal year 1975. Prior to that time, field visits for personnel management reviews were conducted on a sporadic basis. Now all field offices, as well as the Washington offices, will be reviewed every three years.
6. Managerial Seminars. A series of seminars dealing with managerial responsibilities was developed and presented to the Economic Research Service and the Farmer Cooperative Service. Attendance was on a voluntary basis. Plans are now underway to present these seminars to all supervisors on a mandatory basis. The Statistical Reporting Service was presented four of the nine seminar sessions. The nine seminar topics dealing with personnel management are as follows: (1) Overview on Personnel Management; (2) Position Classification; (3) Personnel Staffing and Merit Promotion Procedures; (4) Performance Evaluation and Within-Grade Increases; (5) Adverse Actions and Appeals; (6) EEO and the Discrimination Complaint System; (7) Career Development; (8) Incentive Awards, Employee Suggestion Program, and Safety; and, (9) Special Programs.

All obligations and man-years are in the District of Columbia as follows:

<u>Fiscal Year</u>	<u>Obligations</u>	<u>Man-Years</u>
1975 Actual	\$2,991,123 <u>a/</u>	142
1976 Estimate	3,229,300	140
TQ Estimate	816,000	35
1977 Estimate	3,258,800	140

a/ FY-1975 column adjusted for comparability to exclude \$61,500 and four man-years for management support services for the Packers and Stockyards Administration.

STATISTICAL REPORTING SERVICE

Purpose Statement

The Statistical Reporting Service was established by Secretary's Memorandum No. 1446, Supplement 1, of April 3, 1961 under Reorganization Plan No. 2 of 1953 and other authorities. The Service was created to give coordinated leadership to the statistical reporting research and service programs of the Department. It provides a channel for the orderly flow of statistical intelligence about the agricultural economy of this country. The primary responsibilities of this Service are the National and State crop and livestock estimates and coordination and improvement of the Department's statistical program requirements. Service programs are organized in the following major areas:

1. Crop and livestock estimates. This includes estimates of production, supply, price, and other aspects of the agricultural economy; conduct of enumerative and objective measurement surveys; preparation and issuance of the official National and State estimates and reports of the Department relating to acreages, types and production of farm crops, number of livestock on farms, livestock products, stocks of agricultural commodities, value and utilization of farm products, prices received and paid by farmers, and other subjects as required.
2. Statistical research and service. This includes review, clearance, coordination, and improvement of statistics in the Department; research on and development of improved statistical techniques used in gathering and evaluating statistical data, data processing activities, with related systems analysis and research, programming and processing of data.
3. Work Performed for Others. Services are performed for other Federal, State, and private agencies, on a reimbursable or advance payment basis. These services consist primarily of conducting surveys and performing related statistical data collection activities. They also include participation in the Agency for International Development foreign visitor training program, technical consultation and support and technical assistance programs abroad under participating agency service agreements.

The Statistical Reporting Service maintains a central office in Washington, D. C., but a large part of the crop and livestock estimates program is carried out through 44 State offices serving the 50 States. Most State Statistical Offices are operated as joint State and Federal services through cooperative arrangements with various State agencies.

Available Funds and Man-Years
1975 and Estimated, 1976 and 1977

	Actual 1975		Estimated Available, 1976		Budget Estimate 1977	
	Amount	Man- Years	Amount	Man- Years	Amount	Man- Years
Statistical Reporting Service	\$27,120,000	1,358	\$30,883,000 ^{a/}	1,439	\$33,712,000	1,525
<u>Obligations under other USDA</u> <u>appropriations:</u>						
Agricultural Marketing Service, for video tapes and data on egg marketing, grain storage and milk prices	35,600	3	109,440	8	35,600	3
Agricultural Stabilization and Conservation Service, for data on export sales, feed grains, January intentions, rice, wool and mohair prices, and public access evaluation surveys.	387,500	19	140,000	8	140,000	8
Economic Research Service, for data on acreage utilization, building and fencing material prices, breeding cattle, cost of production, farm and rural land marketing, farm machinery, farm population, farm real estate taxes, fertilizer, livestock, trucking, monthly marketing, predators, tobacco ware- houses, and the annual economic surveys	895,100	58	2,086,400	123	2,027,400	118
Federal Crop Insurance Corporation, for acreage, yield and production data on insured crops. .	189,000	14	200,000	14	200,000	14
Food and Nutrition Service, for milk data and food stamp survey development	165,000	8	140,000	6	-	-
Foreign Agricultural Service, for video tapes and data on export sales	36,565	1	2,500	-	-	-
Miscellaneous Reimbursements	4,000	-	421,660	14	697,000	30
Total, other USDA Appro- priations.	1,712,765	103	3,100,000	173	3,100,000	173
Total, Agriculture Appro- priations.	28,832,765	1,461	33,983,000	1,612	36,812,000	1,698
Other Federal Funds . . .	1,350,525	78	1,839,700	91	1,839,700	91
Non-Federal Funds	121,015	10	81,900	7	81,900	7
Total, Statistical Reporting Service. . . .	30,304,305	1,549	35,904,600	1,710	38,733,600	1,796

^{a/} Excludes proposed supplemental of \$532,000 for increased travel costs.

End-of-Year Employment:

	1975 <u>Actual</u>	1976 <u>Estimated</u>	1977 <u>Estimated</u>
Permanent full-time.....	1,076	1,119	1,119
Other.....	1,181	1,100	850
Total.....	<u>2,257</u>	<u>2,219</u>	<u>1,969</u>

20%

15%

50

200

↓

Statistical Reporting Service

Appropriation Act, 1976.....	\$30,043,000
Budget Estimate, 1977.....	33,712,000
Increase in Appropriation.....	<u>+3,669,000</u>

Adjustments in 1976

Appropriation Act, 1976.....	\$30,043,000
Transfer of sugar work from ASCS.....	+53,000 a/
1976 Supplemental Appropriation for pay costs.....	+787,000

Adjusted base for 1977.....	30,883,000 b/
Budget estimate, 1977.....	33,712,000
Increase over adjusted 1976.....	<u>+2,829,000</u>

a/ Pursuant to Secretary's Memorandum No. 1881, on September 19, 1975, the sugar functions were transferred to this account from the Agricultural Stabilization and Conservation Service. Actual transfer of funds of \$53,000 were made in 1976. On a comparable basis the full annual cost of the activity including pay costs is \$53,000 for 1976 and \$53,000 for 1977.

b/ Excludes proposed supplemental of \$532,000 for increased travel costs.

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	<u>1976</u>	<u>Increase or Decrease</u>	<u>1977 Estimate</u>
List sampling frame development and maintenance.....	\$1,225,000	+\$1,868,000 ✓	\$3,093,000
Improvement of price statistics.....	2,739,000	+310,000	3,049,000
Modification of white corn and mink surveys.....	180,000	-80,000	100,000
Floriculture surveys.....	161,000	-161,000	--
GSA space rental costs.....	1,024,000	+46,000	1,070,000
Annualization of the pay cost increase effective in FY 1976.....	787,000	+314,000	1,101,000
Increased travel costs	--	+532,000	532,000
All other.....	24,767,000	--	24,767,000
Total available.....	<u>30,883,000</u> a/	<u>+2,829,000</u>	<u>33,712,000</u>

a/ Excludes proposed supplemental of \$532,000 for increased travel costs.

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1975	1976 (estimated)	Increases	1977 (estimated)
1. Crop and livestock estimates.....	\$26,334,091	\$29,233,000	+\$2,798,000	\$32,031,000
2. Statistical research and service.....	651,850	1,650,000	+31,000	1,681,000
Unobligated balance lapsing.....	134,059	--	--	--
Total available or estimate.....	27,120,000	30,883,000 ^{a/}	+2,829,000	33,712,000
Transfer from ASCS for sugar work.....	-50,000	-53,000		
Proposed supplemental for pay costs.....	--	-787,000		
Total, appropriation....	27,070,000	30,043,000		

a/ Excludes proposed supplemental of \$532,000 for increased travel costs.

EXPLANATION OF PROGRAM

The Statistical Reporting Service (SRS), U.S. Department of Agriculture, prepares estimates of crops, livestock, poultry, dairy, prices, and related agricultural topics. SRS annually issues some 550 reports necessary for the efficient operation of the Nation's agricultural industry. In addition, 44 Federal-State field offices serving the 50 States release about 10,000 reports per year dealing with State farming activities.

Crop reports provide estimates of acreages farmers intend to plant in the coming season, the acres planted and harvested, production disposition of the crop, and remaining stocks. Forecasts of yield and production are issued monthly during the growing season based on information voluntarily provided by farmers and from counts, measurements, and observations made in sample fields by SRS enumerators.

Livestock and poultry reports include estimates of animals on farms and ranches, or in feedlots. Estimates are made of breeding and production intentions; year-end estimates cover production and disposition of major livestock and poultry species. SRS also tracks slaughter numbers and meat production.

Dairy reports indicate milk cows, monthly and annual milk production, and use of milk. Production of major manufactured dairy products is reported weekly and monthly.

Price reports show prices received by farmers for nearly 200 products and prices paid for about 600 items needed for production or family living. Reports cover indexes of prices received and paid, parity prices, and season average prices of crops, livestock, and livestock products.

Other reports deal with labor and wages, fertilizer, seeds, bees and honey, naval stores, stocks of major commodities, cold storage holdings, and other agricultural elements.

Statistical assistance by the agency provides review, clearance, coordination, and direction to the Department's statistical activities. Designing, implementing, editing and summarizing surveys for requesting agencies are also provided on a reimbursable basis. Additionally, SRS performs fundamental research on data collecting, processing, and estimating techniques.

SRS, the USDA's chief fact-gathering agency, began crop and livestock estimating more than a century ago to provide reliable and unbiased information for all sectors of the agricultural industry. The scope of this program has altered with the changing needs and demands of producers, processors, manufacturers, and Government planners.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) A net increase of \$2,798,000 for crop and livestock estimates consisting of:
- (a) An increase of \$297,000 for annualization of pay increases effective in FY 1976.
 - (b) An increase of \$43,000 for space rental costs pursuant to P.L. 92-313.
 - (c) An increase of \$521,000 for increased travel costs pursuant to P.L. 94-22.
 - (d) An increase of \$1,868,000 for list sampling frame development and maintenance (\$1,225,000 available in 1976).

Need for Increase. In recent years, survey methodology has been developed and put in operation within the available funds to achieve the precision demanded by users of our agricultural estimates. These efforts led to a technique called multiple frame sampling which is currently integrated into our estimating program for livestock and farm labor. New data requirements for the Department of Labor and more recently for the Economic Research Service will also utilize the multiple frame sampling technology. It is essential that a general purpose list frame be available to obtain maximum benefit and efficiency from this sampling technology and to facilitate work for others as well as our own ongoing programs.

The requirements of such a general purpose list sampling frame are that it be reasonably complete, current, and contain sufficient measures of size to promote efficient sampling. There is no single source of such a list available to the Department that meets these criteria. Consequently, we must compile a general purpose list from many different sources. The sources would include, but not be limited to State Farm Censuses, tax assessors, producer and industry associations, the Agricultural Stabilization and Conservation Service (ASCS) and the Soil Conservation Service (SCS).

Plan of Work. The requested amount for FY 1977 (\$1,868,000) would be the second increment of a \$4,318,000 two-year program to develop the general purpose list frame and concurrently establish an ongoing maintenance program. Under present plans, funds from FY 1976 will be utilized to secure a small technical staff, conduct a full field test in a selected State and initiate the list acquisition and building activity in 15 additional States.

About 35% of the total funds available for this project in FY 1977 would be spent on operational level data processing. During this second year of development, the remaining 32 State Statistical Offices will be brought into the program in three groups. Because of the variety of list sources available, program requirements, location and the relative magnitude of the development process, States have been grouped accordingly.

The phasing of States into the development process by groups is necessary for efficient use of central staff and data processing capabilities.

The lists secured from various sources must be processed by computer to identify duplication of names and attempt to associate names with operating farms. The computer process is being developed, and while it is quite sophisticated, it cannot by itself completely do the job. Extensive field work will be necessary to identify duplication not detected by the computer program and resolve questions concerning the operators and operating unit. Control data in the form of type of farming activity and one or more measures of size must be compiled and incorporated before the list is ready for sampling.

Data processing costs for list development are a major expenditure; thus, it will not be possible or prudent to completely rebuild the list at periodic intervals. Therefore, the lists will be constructed and kept current thereafter through a maintenance process. Once the general purpose list sample frame is developed in a State, the maintenance process will be initiated.

(e) An increase of \$310,000 for the improvement of price statistics (\$2,739,000 available in 1976).

Need for Increase. The need for improving the reliability of SRS statistics on prices received and prices paid by farmers has long been recognized. Improvements in price estimates have not kept pace with those made for production estimates. Perhaps this was acceptable in an era of relative price stability. However, the volatility of prices in today's agriculture together with widespread changes in domestic and foreign marketing patterns dictates an improvement in reliability. The objective of the proposed program is to make a beginning in the institution of modern sampling methods in the collection of price statistics.

Because of the volatility of grain prices in recent years, caused largely by sensitivity to potential export sales, along with the effects of grain prices on domestic livestock feeding and consumer prices, prices received by farmers for grains is an appropriate place to begin the improvement program. Furthermore, a good list sampling frame with relative measures of size needed for stratification is available, thus helping to minimize costs.

Plan of Work. Initially, corn, wheat, barley, grain sorghum, soybeans, oats, rice and cotton will be included in the program. A stratified, random sample of grain elevators and cotton buyers from current SRS lists of mills and elevators and cotton buyers is proposed. A sample size of approximately 1,000 is expected for the grains and soybeans, and 400 for cotton to be distributed in approximately 40 States. Data on quantities of specific crops bought and dollars paid would be collected by personal enumeration and/or telephone enumeration. This procedure will provide true "transaction prices" reflecting premiums and discounts which are not now adequately represented.

Coefficients of variation at the national level are expected to be less than 5 percent. Price estimates will be made and published for each State in the estimating program.

Costs per survey would be comparable with those of other SRS probability surveys, but total costs are magnified by the fact that information must be compiled each month of the year. The bulk of additional cost will be in the hire of part-time enumerators. One Systems Statistician to be located in Washington, D.C. to provide data processing support will also be required. A part-time clerk in 32 SSO's will be required to augment the staffs there in data assembly and keypunching. It is not expected to augment the staffs in the remaining States.

Considerable research into enumerative survey techniques and probability sampling in prices has been carried out in the past. This proposal will enable us to begin a modest operational program upon which a complete program of improved statistics for prices received and prices paid can be developed over time.

(f) A decrease of \$241,000 consisting of a modification of the white corn and mink surveys and elimination of the floriculture surveys (\$341,000 available in 1976).

1. White Corn and Mink Surveys: White corn estimates of intentions to plant, planted acreage, harvested acreage, yield per acre and production are issued on a timely basis during the year for the ten States in the program.

Annual estimates of mink pelts produced and females bred are published for the 15 major producing States and the nation.

The modifications which are scheduled will not eliminate any of the currently available official estimates for these commodities. List building and maintenance of the sampling frames for white corn and mink can now be carried out as part of our general purpose list sampling frame work. This reduces funding requirements from \$180,000 to \$100,000.

2. Floriculture Surveys: These surveys are recommended for elimination because of their minimal contribution to food and fiber production statistics. Production and sales are published annually for carnations, chrysanthemums, gladioli, roses and foliage plants. The \$161,000 available for this work does not fully satisfy the detail and coverage desired by the industry. The cut flower industry is interested in expanding these surveys to include additional States and flowers. It is listed as a low priority program since it can be interpreted to fall outside the mission of the Service.

(2) An increase of \$31,000 for statistical research and service consisting of:

(a) An increase of \$17,000 for annualization of pay increases effective in FY 1976.

(b) An increase of \$3,000 for space rental costs pursuant to P.L. 92-313.

(c) An increase of \$11,000 for increased travel costs pursuant to P.L. 94-22.

STATUS OF PROGRAM

The Statistical Reporting Service (SRS) administers the Agriculture Department's program of collecting and publishing current national and State agricultural statistics. Statistical data provided by the Service on the full spectrum of agriculture are essential in making orderly production and marketing decisions.

SRS programs are organized in the following major areas: (1) crop and livestock estimates, (2) statistical research and service, and (3) work performed for other government agencies.

CROP AND LIVESTOCK ESTIMATES

Current Activities: This program includes collecting, analyzing, and publishing production and marketing data on agriculture; number of farms and acreage in farms; crop acreage, yields, production, stocks, value, and utilization; inventories and production of livestock and poultry, eggs and dairy products; prices received by farmers for products, and prices paid for commodities and services for living and production, and related indexes; farm employment and wage rates; cold storage supplies; and other relevant aspects of the agricultural economy.

Estimates for about 150 crops and 50 livestock items are published in some 550 reports each year. All information is made available to the news media and public at scheduled release times.

Thousands of farmers, processors, merchants, and others voluntarily respond regularly to surveys about crop, livestock, and other agricultural activities. These reports are supplemented by field observations, objective yield counts and measurements, and other data to provide basic information for estimates issued to the public.

Program Goals: The principal goals of this program are to (1) increase the accuracy, dependability and public usefulness of national and State data, (2) provide additional data and services needed for commercially important segments of the industry, (3) conduct regular commodity program reviews to assure that statistical information is collected and published in an efficient manner and is satisfying user needs, and (4) shorten the time between data collection and release, and improve information distribution.

Selected Examples of Recent Accomplishments

A. Activities to Increase Data Accuracy and Dependability

1. December and June Enumerative Surveys: In FY 1975, the December and June Enumerative Surveys--probability surveys--were again conducted in the 48 contiguous States.

- a. Program Activities: The 1974 December Enumerative Survey obtained information on livestock, poultry, and fall seedings of wheat and rye from operations covering more than 20,000 tracts of land selected from the previous June Enumerative Survey. Sample selection concentrated on tracts which had or reported intentions to have winter wheat or livestock. In addition, information was obtained from 13,353 large livestock and poultry operators.

The 1975 June Enumerative Survey obtained information on planted acreages of crops, land use, livestock, farm labor, and farm numbers from a sample of 16,078 land segments--each containing about 8 separate tracts of land. In addition, information was obtained from a sample of 16,267 livestock producers.

This is the agency's largest probability survey and employs about 1,500 part-time enumerators. In addition to data for estimates, it provided information requested by other agencies; for example, land use, farm population, and agricultural labor.

- b. Area Frame Development and Maintenance: New area frame construction to replace outdated sampling frames for the enumerative surveys was completed for South Dakota, Indiana, and Michigan. The sample in these States consists of approximately 1,050 units. In addition, new samples were drawn for Illinois, Iowa, Indiana, Kansas, Minnesota, Missouri, Nebraska, and Ohio. These sampling units total approximately 1,000 and will be used first for the Annual Economic Survey beginning in February 1976. Replications will be added later to build the available sample size for these eight States to approximately 3,600.

The type of sampling procedure used permits SRS to select replacement units for a portion of the sample while maintaining consistency year to year and reduce respondent burden.

Maintenance of area frame sampling material is required for all States. This work covered about 1,000 sampling units in 1975.

2. Acreage Update Survey: Acreage data collected in the June Enumerative Survey are updated by interviewing over 11,000 tract operators in July to determine changes between planting intentions and actual plantings. Considerable effort was made in 1975 to improve the stratification and sample allocation for this survey to produce more reliable estimates for the late planted crops.

3. Multiple Frame Livestock and Poultry Surveys:

- a. Program Activities: Continued emphasis was placed on program improvements during the year. Considerable effort was expended in developing better sampling frames, improving stratification, automating sample selection, and data analysis. The multiple frame livestock program added nine States in June 1975 for hogs and six States in July for cattle. There are now 23 hog and 34 cattle States, which represent about 95% of the U.S. inventory numbers. Surveys are conducted in these States for December 1 and June 1 for hogs and January 1 and July 1 for cattle. In addition, there are 14 States involved in the hog and pig inventory estimates for March 1 and September 1.

These surveys utilize two sampling frames: a list of agricultural units (names and addresses) stratified by size of operation; and the land area frame used in the June and December Enumerative Surveys. The lists are built from several sources inside and outside the agency--Agricultural Stabilization and Conservation Service (ASCS), Soil Conservation Service (SCS), State Farm Censuses and industry sources.

State Statistical Offices (SSO) in Virginia, Alabama, and Arkansas continued the multiple frame approach instituted during FY 1973 in estimating chicken inventories and layers. Probability samples, selected for monthly surveys, were rotated to reduce respondent fatigue and provide more up-to-date control data. The Texas SSO, with State funds, used a multiple frame approach in estimating the annual December 1 chicken inventory.

- b. List Updating and Maintenance: During the year, all States in the multiple frame program updated their lists and selected new samples. Sampling errors are evaluated and monitored continuously to identify critical needs in updating. This portion of the program requires a considerable amount of time, effort, and expense but is absolutely essential if the agency is to continue providing accurate agricultural statistics.

4. Objective Yield Surveys:

- a. Wheat, Corn, Cotton, and Soybeans: Objective Yield Surveys for wheat, corn, cotton and soybeans continued in the major producing States. The overall sample size was unchanged from the previous year but some shifts in allocations among States were made to improve efficiency. There were 17 States in the wheat program with 2,510 samples (1,880 winter wheat, 400 other spring, 230 durum); 19 States for corn with 3,200 samples; 14 States for cotton with 2,510 samples; and 14 States for soybeans with 1,675 samples.

Following special training, about 700 enumerators interviewed farm operators and made field counts and observations monthly through the growing season and harvested a sample of the mature crop. The survey concluded with post-harvest observations to determine harvesting losses. Results from these surveys were used as major indicators of yield.

Enumerators also asked farmers the kind, application date and rate, and price of fertilizer applied to wheat, corn, cotton, and soybean sample fields.

- b. Potatoes: Objective yield survey coverage was expanded from 7 to 12 fall crop potato States, which produce 85 percent of the national crop. A total of 2,100 samples was assigned to these States to provide the primary yield indicator. Operational probability surveys also are conducted in these States to obtain primary indications of planted acreage each year.
- c. Tart Cherries: Supplemental funds for a tart cherry objective yield survey in Michigan were again provided by that State. In addition to providing data for the mid-June forecast of production using a sample of 300 orchards, data were collected to update forecasting parameters and to determine harvesting losses.

5. Potato Stocks Surveys:

- a. Quality: A survey to determine quality of potato stocks became operational in the Red River Valley of North Dakota and Minnesota. Changes in weight and grade are measured between the time potatoes move into storage and when they are removed.
- b. Quantity: A multiple frame survey was initiated for six additional States in 1975 to provide increased accuracy of potato stocks estimates for the eight States now utilizing these procedures.
6. Quarterly Agricultural Labor Surveys: These surveys, utilizing the multiple frame technique, became fully operational in January 1974. The new procedures produce more precise estimates of numbers of farm workers and wage rates. Measures of precision, made possible with this probability method were begun for July 1975. Monthly estimates based on nonprobability mail surveys were discontinued in January 1975 after a year of overlap with the new multiple frame surveys.
7. Vegetables: Estimates of vegetables for processing being grown under contract are now issued by SRS. No allowance is made during the season for open market purchases of vegetables for processing. At season's end, both open market and contract data are still compiled into a single estimate.

B. Activities to Provide Additional Data and Services

1. Farm Production Expenditure Survey: The Annual Farm Production Expenditure Survey was repeated in February 1975 to provide the basis for revising the Parity Index weights at regular, predetermined intervals and current data for improving the Department's estimates of farm income.

The two-stage multiple frame sample design was used with approximately 2,000 questionnaires obtained from a list of about 1,350 commercial operators and enumeration of about 560 area segments for the national survey.

Beginning in February 1976, these surveys will be merged into an Annual Economic Survey to provide expenditure statistics for the Economic Research Service.

2. Farm Family Living Expenditure Survey: The three-phase survey covering 1973 expenditures was conducted in April and July 1973 and February 1974. The sample consisted of 1,765 area segments in 37 States which produced 2,600 useable questionnaires. Survey results have been summarized, analyzed and published.
3. White Corn Acreage and Production Surveys: The multiple frame survey for white corn provided planted and harvested acreage and production estimates for 10 States.
4. Weekly Weather and Crop Bulletin: A national Weekly Weather and Crop Bulletin continued to be published in cooperation with the U.S. Department of Commerce. This publication has wide public interest because it relates to current conditions and progress of crops and helps bridge the information gap between monthly crop reports. News reporters, government economists, and industry representatives followed the report closely. Data tables showing weekly planting and harvesting progress of major crops in principle States were added to the 1975 bulletin.

Crop comments were supplied by SRS field offices, while precipitation, temperatures, and other related weather information came from the National Oceanic and Atmospheric Administration.

5. Forward Contracting: Data to determine the extent of forward contracting of corn, soybeans, wheat and cotton are being collected in conjunction with the objective yield surveys. Estimates of the percent forward contracted have improved price estimates for these commodities.
6. Revision of Price Indexes: Summaries of the 1971-73 expenditure surveys have been completed providing data necessary for updating weights for indexes of prices paid by farmers and the Parity Index. Revisions were last made in 1959. An extensive review of procedures is being made and revision work is underway for both the Parity Index and Index of Prices Received by Farmers. Publication is expected in early 1976.
7. Modification of the Price Program: A comprehensive review of the procedural aspects of the program for prices received and prices paid by farmers has been completed. A number of modifications are being proposed which are expected to strengthen the overall program for price estimates and better utilize available resources. Final modifications will be dependent on an evaluation of reactions by data users.
8. Vegetables: SRS now estimates harvested acreage and production of onions used primarily for processing.
9. Fruit: Noncitrus fruit tree and tree nut inventory surveys are now being completed in eight States using various combinations of agency, State, or local resources to establish tree numbers by age and variety and total production.
10. Lemons: The first seasonal forecast is being advanced to October 1 from November 1 beginning in 1976 and will include all lemon production for the U.S.
11. Fruits: An updated handbook listing blooming and harvesting for fruits and tree nut crops was issued in December 1975.

12. Expansion of Sugar Program: With the termination of the Sugar Act of 1948, the SRS was delegated the responsibility to collect and publish data related to factory production of sugar and molasses together with associated data including polarization, sucrose, and purity. In addition to the above responsibilities, SRS will publish county estimates of farm acreage, yield, and production for sugarbeets and sugarcane.
13. Weekly Egg-type Chick Report: The State Statistical Offices in California, Georgia, Mississippi, Oregon, and Washington issue a weekly egg-type chick hatchery report as part of the weekly broiler placement release. Reports for California, Mississippi, and Georgia show individual estimates of eggs set and chicks hatched for each of the five States and the 5-State total. In Washington and Oregon, the respective estimates and a total for the Pacific Coast States are published for eggs set and chicks hatched. An estimate of pullets placed is also published in Oregon.
14. Multiple Frame Egg Survey: The three multiple frame poultry States, Alabama, Arkansas, and Virginia, continued to conduct a December survey of commercial egg producing flocks. The surveys were highly successful and provided estimates of the egg laying flocks and other classes of chickens and a reliable sampling frame for monthly egg production surveys.
15. Egg Production Estimates by Use: Alabama, Arkansas, and Virginia publish separate monthly estimates of market eggs and hatching eggs. Georgia, the only other State making this separation, does the work with State funds.
16. Whey Products Survey: Monthly estimates of whey, whey products, and stocks were begun in January 1975 in response to needs of the cheese industry.
17. Refrigerated Pickle Stocks: A modification in the pickle stocks program was begun in 1973 to include refrigerated pickles.
18. Monthly Fertilizer Reports: A monthly report on fertilizer consumption based on data collected by State Fertilizer Control Officials was expanded from 17 to 19 States accounting for about 49 percent of the total consumption.
19. Selected Examples of Special State Funded Projects:
 - a. Arkansas: County data for numbers of layers and marketings of broilers and turkeys were included in an annual poultry bulletin covering production of commercial eggs, broilers, and turkeys.
 - b. California: Data collected by the State Department of Food and Agriculture under the mandatory California Egg Program (marketing order) is used by the SSO in developing monthly estimates of layers and egg production. These data are supplied to the State Egg Program office after Washington release. This cooperation reduces respondent burden, eliminates duplication of effort, improves the SRS image with poultry producers, and improves the quality of statistical data.
 - c. Florida: A survey of all turf grass areas, except grasslands used only for pasture was conducted in early 1975 and results published in late 1975. Data collected included total areas in turf grass, areas of newly established grass, kinds and varieties of grasses, propagation practices, and detailed expenditures associated with the commercial production of sod, as well as costs of establishing and maintaining turf.
 - d. Mississippi: A cattle and calf marketing survey was conducted in June 1975 as a follow-up to the same survey conducted in 1974. Data were collected relating to the types of cattle marketed, use of the futures market, and other marketing practices.

- e. Nevada: The January special report of "warm-up" cattle on feed is part of a continuing State project. This report shows the number and weights of cattle being prepared for feedlots.
- f. South Carolina: The South Carolina office, in cooperation with Clemson University, published a report on the origin of livestock moving into and out of the State. This program required data collection assistance from the Georgia State Statistical Office.
- g. Wisconsin: The Wisconsin office conducted a survey in conjunction with its annual inquiry of manufactured dairy products relating to production by styles of American and Swiss cheese. The data, first released in July 1974, are now published annually.

A special alfalfa hay survey was conducted during late October 1975. Information pertaining to the management, production, and marketing practices of alfalfa hay producers was collected and survey results published in late November 1975.

- h. Wyoming: Wyoming conducted a survey in early 1975 of the number of sheep and lamb deaths, by causes, during 1974. Estimates were issued in April 1975.

C. Activities to Review Commodity Programs

- 1. New York Cabbage Stocks: Publication of the December 1 and January 1 estimates for this series are now limited to New York State after being deleted from the national Vegetables-Fresh Market report series.
- 2. Price and Index Study: The contract was renewed with the University of Minnesota to study the effect of market changes for purchased inputs on the index of prices paid and received by farmers.
- 3. Vegetable Prices: As an economy measure, the fresh market vegetable price program was reduced from a semimonthly program of price reports to a single report each month.
- 4. Vegetables: A proposal is now being evaluated to eliminate or reduce a significant number of vegetable estimates in the current program. Under the proposed plan, some 20 percent of the current number of fresh market vegetable estimates would be eliminated. This would include crop estimates for States that have less than 1 percent of the national crop production and the value of the crop is less than \$1 million in any individual State. An additional 25 percent of the remaining estimates would be changed from the system of periodic forecasts and estimates to only end-of-season estimates. These States would account for approximately 5 percent of total commercial vegetable production.
- 5. Commercial Floriculture: The SRS definition of a "commercial" floriculture producer was amended in 1975 to include only those having gross sales of \$10,000 or more. The result was a reduction in workload while providing the industry with a more acceptable definition of their commercial production.
- 6. Quarterly Farm Grain Stocks: The quarterly probability farm grain stocks survey conducted in the 12 North Central States was a decrease item in the 1976 budget and was discontinued with the July 1, 1975 survey. Plans are to add farm stocks questions to the 1976 June Enumerative Survey questionnaire and obtain farm stocks data once a year on a probability basis in 48 States. Quarterly farm grain stocks mail surveys are being continued in the 48 States.

7. Farm Grain Stocks Quality Control Survey: A survey was conducted in six States following the April 1, 1975 grain stocks report to determine the quality of information provided by respondents. In addition a sample of non-respondents was contacted to determine if the level of stocks was significantly different between respondents and non-respondents.

D. Activities to Expedite Processing and Release of Reports

1. Rapid Data Transmission: Releasing crop and livestock estimates via computer network processing became an operational reality for eight additional State offices bringing the total to 38. The system was used for major SRS releases, such as monthly crop and milk production reports, quarterly cattle on feed, and semi-annual cattle and hog and pig inventories. Data released in this manner are more readily available to other government agencies and the general public for a more timely analysis of these estimates. Network processing also provides computer summarization of estimates and direct output to camera copy for offset printing.

The national facsimile network served as a valuable tool for disseminating high priority data and estimates to the 48 contiguous States. Releasing estimates via the computer network has reduced facsimile transmission which continues to serve as a valuable backup for the computer network and mail systems. The facsimile transmission process is relatively slow and quality marginal but usage volume does not justify incurring higher costs to upgrade the equipment.

2. Computer Processing: SRS continued to expand its use of general purpose computer processing systems to include off-farm grain stocks, manufactured dairy products, and honey. An additional generalized system was developed to provide more capability in responding to special survey summary requirements.

Systems under development include a management report system; a system to assist in identifying duplication of names on sampling lists; and an Official Estimates Data Base system to be accessed by news media and data users having ADP capability.

3. Vegetables: Summarization and camera copy for the 1975 fresh market and processing vegetables annual reports will be generated by computer.
4. Commercial Floriculture: Data processing of the editing and summarization phases of the 1975 floriculture survey was decentralized from Washington to 20 of the 22 State Statistical Offices participating in the project. Processing was accomplished much faster, allowing more timely release of the data.
5. Data Base: In June 1975, the citrus portion of the Crop Production report was processed and printed using the automated crop report and data base system.

STATISTICAL RESEARCH AND SERVICE

Current Activities and Trends: Most funds used for research and service are directed toward improving the Agency's crop and livestock estimating techniques. Considerable emphasis is placed on bettering sample survey designs as well as testing new forecasting and estimating techniques. Other activities include the review, coordination, and monitoring of surveys conducted by the Department. This involves the review of all proposed statistical forms and survey plans requiring Office of Management and Budget clearance, and coordination of all inter- and intra-Department programs for the improvement of agricultural statistics and release data.

Program Goals: The principal goals of this program are to (1) coordinate and direct statistical clearance and services in the Department, (2) provide support research for operational programs, and (3) provide research to develop improved estimating techniques.

Selected Examples of Recent Accomplishments:

A. Statistical Clearance and Consultation: The Statistical Clearance Office serves as USDA's liaison with the Office of Management and Budget (OMB) in its role of planning and coordinating Federal statistical activities and administering the Federal Reports Act. The principal function of the Statistical Clearance Office is to administer Department of Agriculture regulations pertaining to statistical standards and the Federal Reports Act and to assure compliance with the Act. During Fiscal 1975, the Clearance Office reviewed and processed 425 requests for clearance of statistical survey plans, forms, and reporting or recordkeeping requirements. In addition to this review, staff assistance on sample design, survey planning, and questionnaire construction was provided to a number of Department agencies. Under the direction of OMB guidelines, SRS also handled the data collection function of several surveys for other agencies. Special activities of the staff included: (1) participation on an OMB Occupational Classification Committee and related technical work groups; (2) coordination of Department of Agriculture listings of personnel for inclusion in the 24th edition of OMB's Federal Statistical Directory and similar coordination of Department of Agriculture inputs for the OMB publication, "Statistical Services of the United States Government"; (3) coordination of updating materials for the Census Bureau's 1975 Statistical Abstract; (4) participation in the final planning stages and coordination of the Department of Agriculture's role in assisting with the 1974 Census of Agriculture, including coordination of distribution lists for these Census publications; and (5) coordination of Department of Agriculture participation in planning for the 1977 Economic Censuses and the 1980 Census of Population and Housing.

B. Research to Improve Operational Programs:

1. Improved Technology: In FY 1975, new area frames were constructed in South Dakota, Indiana and Michigan. The method of replicated sampling is being used to reduce sampling errors, to make the sample selecting process more efficient and to reduce respondent burden.

A strong effort has begun in research and development of a system to build and maintain a general purpose list sampling frame. Much of the software for an automated procedure to identify duplication of names on sampling lists has been designed with testing now in progress. Field testing and implementation as well as development of maintenance programs is planned for FY 1976. The resulting general purpose list sampling frame will be reasonably complete and current with data available to stratify the operating lists, and thus improve the accuracy of estimates.

2. Nonsampling Errors: Analysis was completed on research studies conducted in FY 1974 to identify sources of nonsampling errors. Some errors are being removed by additional code boxes on survey questionnaires to strengthen edit and data control procedures. Other sources are more difficult to measure and require additional research.
3. Survey Methodology: Multiple frame sampling methodology involves the joint use of area and list sampling frames. To meet the theory of multiple frame sampling it is necessary that the overlap between these two sampling frames be determined.

Current procedures for determining this overlap between sampling frames have been evaluated and compared with alternate procedures. One of the new procedures was implemented in the operational survey in four States for the 1975 December Enumerative Survey.

Analysis has been completed to provide guidance in the problem of sample allocation between the area frame and list sampling frame. Analysis is also underway to evaluate sample selection procedures used in the area frame, and to measure bias involved in the rotation of sample units.

Procedures are being developed to test and evaluate some of the underlying assumptions involved in sample surveys. The problem involves the questionnaire and survey procedures and their design so that the respondent can report for a unit with which he is familiar yet still maintain the original probabilities of selection. A continuing effort is underway to evaluate the effect of questionnaire design. Previous research has shown that the wording of a particular question or the order in which questions are asked can have a significant affect on the final survey result. The effects of these are evaluated in a continuous effort involving both small scale pilot surveys and larger scale studies connected with operational surveys.

4. Crop Yield, Estimation and Forecasting:

- a. Automated Fruit Counting: An automated classification, clustering and counting system was designed to count trees in orchards and fruit on trees. The classification is made from digitized aerial or ground photographs. Results show that fruit trees and mature oranges, apples, and peaches can be successfully counted. Tree counts will be useful in sample surveys to estimate or forecast yields. An automated fruit counting photography system can be used to supplement tree counts to more precisely estimate the number of fruit per tree.
- b. Corn: The investigation of time related growth models was continued in 1975 using data collected in ten randomly selected central Iowa corn fields. Growth models of grain weight per plant based upon various measures of time after silk emergence were developed. A time related survival model for plants with ears was also developed. The survival model provides a method of adjusting base period plants with ears to the number of plants per acre at harvest. The product of the survival model and growth model forecasts provides an indication of biological yield which is dependent only on current year data.
- c. Spring Wheat: A research project was designed to investigate the applicability of within-year growth models to spring wheat. Intensive data collection was conducted in three North Dakota spring wheat fields. The study will provide information on which time initiating events are most useful for within-year yield forecasting models.
- d. Papaya: Intensive data collection designed to provide a method of making reliable papaya production forecasts was concluded in December 1974. Aggregate tree and individual fruit data were collected weekly for 22 months on sample trees in the Puna District on the Island of Hawaii. Preliminary conclusions are: (1) the period from fruit set until maturity is quite uniform, (2) week-to-week changes in the number of fruit set corresponds to similar changes in number of fruit subsequently harvested, and (3) the percentage of high quality varies greatly during the year.
- e. Dry Beans: Objective methods of forecasting dry bean yields were developed based on 1972 Michigan data. Forecasting models based on plant characteristic counts were promising. Conversely, plant size was found to be a poor characteristic for forecasting final yield.

C. Research Toward Improving Estimating Techniques

Remote Sensing: Since the launch of LANDSAT (formerly known as ERTS) in July 1972, the Agency has investigated the potential use of satellite imagery as a source to improve agricultural information. The primary thrust of the work to

date has been in the area of crop identification and the development of methods to estimate crop acreages from LANDSAT imagery.

The study areas used in the 1972 project were located in Kansas, Missouri, South Dakota, and Idaho. The best classification results obtained for the study sites are:

- | | |
|-----------------|--------------------------|
| 1. Missouri | 70% correct for 6 crops |
| 2. Kansas | 91% correct for 4 crops |
| 3. South Dakota | 30% correct for 10 crops |
| 4. Idaho | 40% correct for 12 crops |

The 1972 imagery was collected quite late in the growing season, therefore, results in South Dakota and Idaho were poor. Results, also, seem to indicate field size and shape and number of crops for identification do have a significant effect on the classification accuracy. In Kansas, where classification results were excellent, the correlation between ground observed acres of a crop and computer classified LANDSAT pixels of the same crop is high.

Because of the importance of proper timing in obtaining data, the South Dakota imagery in 1973 and the Texas imagery in 1974 were obtained in the middle of the growing season and a careful study is being made of the results. In addition, emphasis has been placed on the use of satellite imagery to improve land use stratification in the SRS area sampling frame.

Computer software has been developed to enable retrieval of LANDSAT data corresponding to ground truth samples which may be used either in locating crop fields for evaluating the classification results of satellite imagery. Typically, these areas represent distinct agricultural fields or areas of uniform land cover within area segments used by SRS in its crop and livestock surveys.

An analysis of aerial photography data obtained using the microdensitometer was completed in 1975. It concurred with the 1972 LANDSAT study. Classification results were somewhat superior to LANDSAT classification results. However, the date of the photography was better timed than the date of the imagery. The best aerial photographic classification results obtained in the study sites were:

- | | |
|-----------------|--------------------------|
| 1. Missouri | 80% correct for 11 crops |
| 2. Kansas | 80% correct for 7 crops |
| 3. South Dakota | 72% correct for 15 crops |
| 4. Idaho | 84% correct for 15 crops |

Although the classification results are quite accurate, operational problems exist that are not present in the low resolution LANDSAT data. It is planned to devise methods to overcome these problems and it is possible that aircraft data can be used for other purposes.

Finally, special ground data was collected in 1975 in Illinois, Kansas, and Texas. These observations will be used as ground truth for satellite imagery in a feasibility study in the above named States. Should this feasibility study prove successful, it will be expanded in 1976. However, at this time, no conclusive results are available.

WORK PERFORMED FOR OTHERS

Program Goals: The primary aim of this program is to (1) design and implement surveys for requesting government agencies, (2) ensure that proper clearance and statistical procedures are followed, and (3) if requested, edit and summarize survey results.

Selected Examples of Recent Work:

1. January Planting Intentions Report: At the request of the Agricultural Stabilization and Conservation Service (ASCS), a survey was made in 35 States to determine acreage planting intentions for major crops. The report was issued January 22, 1975.
2. Rice Estimates by Length of Grain: A program to estimate rice classes by length of grain was conducted at the request of ASCS. These data were published in the December Crop Production report based on a probability survey conducted in November. Final rice production and quarterly stocks estimates were published by length of grain.
3. Barley Variety Survey: SRS again provided barley variety information for the Malting Barley Improvement Association. The survey was conducted in the spring and covered 1975 plantings. The survey included the major malting barley States of California, Colorado, Idaho, Minnesota, Montana, North Dakota, Oregon, South Dakota, Washington, and Wyoming.
4. County Data for ASCS and Federal Crop Insurance Corporation (FCIC): County estimates of acreage, yield, and production for the major field crops were again prepared for ASCS and FCIC. Estimates covered selected States and counties for ASCS and growing practices for FCIC where crop insurance programs were in effect.
5. Pacific Northwest Wheat Project: This regional activity produces a comprehensive quarterly accounting of supply and disappearance of white wheat and total wheat in the northwest. The primary purpose of the project is to provide current information on available supplies which are mostly exported.
6. Ownership of Milk and Beef Breeding Cattle: Data were collected in conjunction with the 1974 December Enumerative Survey to determine farm operator ownership of U.S. milk and beef breeding cattle. Data were collected for all 48 States and tabulation supplied to the Economic Research Service (ERS).
7. Hired Farm Workers: Data were collected in July 1975 to provide the Department of Labor, Employment Standards Administration, with information to evaluate the effects on agricultural employees of the Fair Labor Standards Amendments of 1974. The survey conducted in 48 contiguous States, covered workers employed by farm operators and agricultural service firms.

Beginning in July 1975, the sample of employers of agricultural labor and agricultural service firms was increased to 18,000 to provide the Department of Labor, Manpower Administration, with informational details needed to distribute funds under Section 303 of the Comprehensive Employment and Training Act of 1973. The increased sample size has enabled SRS to publish at the State level, a breakdown of hired workers including agricultural service workers into field and livestock workers and others. The survey was expanded to include Puerto Rico beginning in October 1975. In addition to distributing funds, the Department of Labor will use the data to conduct research and evaluation studies involving other programs and responsibilities of the Department.

8. Processors and Handlers Survey: Data were collected for the Department of Labor during February and March 1975, to provide information for eleven agricultural related categories of non-supervisory employees exempt from the overtime provision of the Fair Labor Standards Act as amended by S. 2747 U.S. in 50 States, Puerto Rico, and the Virgin Islands.
9. National School Lunch Program: Data were collected for the Food and Nutrition Service to measure the effects of the School Milk Program of the National School Lunch Program. Seven hundred fifty schools were enumerated and information collected pertaining to participation in and cost associated with the School Milk Program. Data were tabulated and turned over to the Food and Nutrition Service for evaluation and publication of the report.

10. Farm and Rural Land Market Survey: These surveys in March and October 1975, provided ERS with data to make State estimates of changes in farm real estate values.
11. Farm Real Estate Tax Survey: A mail survey of county and/or township tax officials was conducted in early 1975 for ERS to provide data to estimate changes in farm real estate tax levels.
12. Farm Population Data: Data were collected to provide a count of population by race, births and deaths on farms whose operators lived in area frame segments sampled as part of the June Enumerative Survey. Data were summarized and turned over to ERS for analysis.
13. Special Acreage Utilization: Data were collected in conjunction with the 1975 June Enumerative Survey to include: (1) acres of cropland used only for pastures, (2) cropland in cultivated summer fallow, (3) cropland used for soil improvement, (4) idle cropland, (5) acres of non-cropland, and (6) acres irrigated for the first time. Data were tabulated and summarized for ERS.
14. Farm Tractor Price Survey: A total of 220 tractor dealers were surveyed in April 1975 in a special Farm Tractor and Equipment Survey. Data on dealers' costs, markups and actual prices charged to farmers were collected in 25 States and supplied to ERS.
15. Foreign Activities: SRS provides both technical assistance and training programs directed toward the improvement of statistical services in developing countries. These activities are primarily sponsored by Agency for International Development, but also some training is funded by participating governments, by Foreign Agricultural Service, Department of State, and international organizations.

A total of 178 foreign participants received training provided by this agency from July 1, 1974 to date. Training was provided in basic statistics, sample frame construction, sampling design, survey operations, and administration of a current data collection system.

SRS provided technical assistance to 19 countries using a team approach where possible. These projects were designed to assist the host country in developing a reliable sample survey system to provide current agricultural data.

For Fiscal Years 1975, 1976, and 1977 the appropriated and trust fund obligations and man-years for the Statistical Reporting Service are distributed geographically as follows: a/

	FY 1975 Actual		FY 1976 Estimate		FY 1977 Estimate	
	Obligations	Full Time MY b/	Obligations	Full Time MY b/	Obligations	Full Time MY b/
Alabama.....	\$ 352,493	14	\$ 417,000	14	\$ 481,000	15
Alaska.....	45,152	2	51,000	2	52,000	2
Arizona.....	226,849	9	259,000	9	274,000	9
Arkansas.....	409,230	15	457,000	16	518,000	17
California.....	1,084,170	41	1,227,000	42	1,261,000	45
Colorado.....	492,452	20	545,000	20	602,000	20
District of Columbia.....	9,028,397	317	10,919,600	362	12,414,000	376
Florida.....	615,434	21	687,000	24	757,000	26
Georgia.....	480,666	18	546,000	19	615,000	20
Hawaii.....	145,231	6	157,000	6	163,000	6
Idaho.....	404,144	16	452,000	16	512,000	17
Illinois.....	546,707	19	595,000	20	607,000	21
Indiana.....	403,875	17	441,000	17	491,000	17
Iowa.....	593,287	23	612,000	23	625,000	24
Kansas.....	542,079	22	590,000	22	609,000	23
Kentucky.....	388,489	15	435,000	16	489,000	16
Louisiana.....	331,258	13	375,000	13	393,000	14
Maryland.....	258,296	10	286,000	10	290,000	11
Massachusetts.....	366,106	15	404,000	15	410,000	15
Michigan.....	421,635	17	467,000	17	481,000	18
Minnesota.....	503,066	20	546,000	20	601,000	21
Mississippi.....	477,725	17	558,000	19	629,000	20
Missouri.....	428,593	17	467,000	17	516,000	18
Montana.....	368,977	12	404,000	13	422,000	15
Nebraska.....	596,923	24	637,000	24	659,000	25
Nevada.....	106,446	4	122,000	4	132,000	4
New Jersey.....	199,065	8	221,000	8	227,000	8
New Mexico.....	223,081	10	248,000	10	263,000	10
New York.....	371,810	15	408,000	15	420,000	16
North Carolina.....	549,734	21	587,000	22	604,000	23
North Dakota.....	353,483	14	406,000	14	463,000	15
Ohio.....	464,688	18	507,000	19	556,000	19
Oklahoma.....	429,470	17	485,000	17	506,000	18
Oregon.....	395,603	16	447,000	16	459,000	16
Pennsylvania.....	392,914	16	453,000	16	471,000	16
South Carolina.....	318,335	12	402,000	13	495,000	13
South Dakota.....	506,776	19	523,000	20	546,000	20
Tennessee.....	417,701	14	489,000	17	547,000	17
Texas.....	925,111	34	1,022,000	37	1,043,000	39
Utah.....	208,425	8	230,000	8	240,000	9
Virginia.....	332,948	14	383,000	14	401,000	14
Washington.....	403,308	17	458,000	17	471,000	17
West Virginia.....	154,505	6	174,000	6	186,000	6
Wisconsin.....	525,608	22	563,000	22	579,000	22
Wyoming.....	219,211	9	242,000	9	254,000	9
Total.....	\$27,009,456	1,014	\$30,904,600	1,080	\$33,734,000	1,122

a/ Excludes obligations and man-years for reimbursements.

b/ Man-years for other than full-time permanent are 345 (FY 75); 360 (FY 76); 404 (FY 77); and cannot be distributed by geographic location.

Crop Reporting Board 1976 Calendar

Lockup: 8:30a.m.-3:00p.m.
Rooms 0201-0248

Lockup: 12:30-3:30p.m.
Rooms 0201-0210

Reports available room 0005 ★ Release hours: 3:00p.m. for all reports except Cranberries and Celery (1:00p.m.)

	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	
JANUARY				1 Holiday	2 Turkey				1 Poultry Slaughter	2 Egg Products	JULY
	5 Poultry Slaughter, Celery	6	7	4 Veg-Fresh Market	9 Crop Production	5 Holiday	6 Celery	7	8 Nonfat Fluid Milk-Midwest Supplement	9 Veg-Fresh Market, Veg-Processing	
	12 Milk Production, Egg Products	13 Potato Stocks, Nonfat Fluid Milk - Annual	14	15 Crop Production - Annual, Seed Crops	16 Sheep & Lambs on Feed, Hens - Annual, Poultry	12 Crop Production	13 Milk Production	14	15 Tall Fescue Seed (Southern States)	16 Cold Storage	
	19 Cold Storage, Naal Stores, Onion Stocks	20 Cattle on Feed, Eggs, Chickens & Turkeys	21 Prospective Plantings - Jan. 1	22	23 Grain Stocks, Rice Stocks	19 Cattle on Feed, Lamb Crop & Wool	20 Eggs, Chickens & Turkeys	21 Naal Stores	22	23	
	26	27 Peanut Stocks & Processing	28 Sheep & Goat	29 Crop Values, Livestock Slaughter, Poultry Slaughter	30 Dairy Products, Agr. Prices, Com. Fertilizers	26 Cattle	27 Peanut Stocks & Processing	28	29 Livestock Slaughter, Egg Products, Poultry Slaughter, Dairy Products	30 Agr. Prices, Com. Fertilizers, Misc. - Wine, Milk Price Series	
FEBRUARY	1 Cattle	2	3 Celery	4	5	2	3 Field Seed Stocks	4 Celery	5 Citruson Clover Seed (Onion)	6	AUGUST
	9 Egg Products	10 Crop Production	11 Milk Production	12 Cattle on Feed, Potato Stocks	13	9 Veg-Fresh Market, Veg-Processing	10	11 Tall Fescue Seed (Onion)	12 Crop Production	13 Cattle on Feed, Milk Production	
	16 Holiday	17	18	19 Cold Storage, Naal Stores	20 Eggs, Chickens & Turkeys, Layers & Egg Production - Annual	16 Com. Apples by Varieties	17 Veg. Seed Stocks	18 Cold Storage	19 Naal Stores, Cranberries	20 Eggs, Chickens & Turkeys, Egg Products, Mushrooms	
	23	24	25 Peanut Stocks & Processing	26	27 Livestock Slaughter, Agr. Prices, Farm Labor, Com. Fertilizers	23	24 Turkey, Timothy Seed, Potatoes & Sweetpotatoes	25 Peanut Stocks & Processing, Rice Stocks	26 Farm Labor	27	
						30 Livestock Slaughter	31 Dairy Products, Agr. Prices, Com. Fertilizers				
MARCH	1 Dairy Products	2	3	4 Poultry Slaughter, Celery	5 Commercial Broilers, Turkeys, Veg. - Fresh Market			1	2 Poultry Slaughter	3 Celery	SEPTEMBER
	7	8 Crop Production, Egg Products	9 Milk Production, Flowers & Folage Plants	10	11	6 Holiday	7	8	9 Veg-Fresh Market, Veg-Processing	10 Crop Production	
	15	16 Sheep & Lambs on Feed	17 Hatchery Production - Annual	18 Cold Storage, Naal Stores, Hop Stocks	19 Eggs, Chickens & Turkeys	15 Milk Production	16 Cattle on Feed	17	18 Peanut Stocks & Processing - Star Report, Hop Stocks	19 Cold Storage, Eggs, Chickens & Turkeys	
	22 Hop and Pip	23 Veg. Seeds	24	25 Peanut Stocks & Processing	26 Regional Cold Storage Holdings, Veg. - Processing	20	21 Naal Stores	22 Soybean Stocks, Hogs & Pigs	23 Peanut Stocks & Processing, Egg Products	24 Honey	
	29 Livestock Slaughter	30 Dairy Products	31 Capacity of Refrigerated Warehouses, Agr. Prices, Com. Fertilizers			27	28	29 Livestock Slaughter	30 Dairy Products, Agr. Prices, Com. Fertilizers		
APRIL				1 Poultry Slaughter, Chickens, Eggs & Broilers	2 Meat Animals - Prod., Dap. & Income, Wool & Mohair				1 Poultry Slaughter, Citrus Fruit - Annual		OCTOBER
	3 Celery	4	5	6 Egg Products, Veg. - Fresh Market	7 Crop Production	4 Celery	5	6 Cherry Bulbization	7 Red Clover Seed	8 Veg-Fresh Market	
	12 Milk Production	13 Potato Stocks	14	15 Prospective Plantings - Apr. 1	16 Cattle on Feed	11 Holiday	12 Crop Production	13 Milk Production	14	15 Egg Products	
	19 Milk Prod., Dap. & Income, Cold Storage	20 Naal Stores, Eggs, Chickens & Turkeys	21	22 Grain Stocks, Rice Stocks	23	16	17 Cattle on Feed, Cold Storage	18 Eggs, Chickens & Turkeys, Naal Stores	19 Grain Stocks, Rice Stocks, Alfalfa Seed	20	
	26	27 Peanut Stocks & Processing	28 Livestock Slaughter (Monthly), Livestock Slaughter - Annual	29 Poultry Slaughter, Dairy Products	30 Agr. Prices, Com. Fertilizers	23 Holiday	24 Peanut Stocks & Processing	25	26 Livestock Slaughter	27 Dairy Products, Agr. Prices, Com. Fertilizers	
MAY						1 Com. Fertilizers - Prod.	2 Poultry Slaughter	3	4 Celery	5	NOVEMBER
	7	8 Field Crops - Prod., Dap., & Value, Celery	9 Egg Products, Com. Fertilizers - Final	10	11 Milk, Veg. - Fresh Market	8 Veg-Fresh Market	9	10 Crop Production	11 Milk Production	12 Cattle on Feed	
	14 Crop Production	15 Milk Production	16	17 Cattle on Feed, Naal Stores - Annual	18	13 Veg-Processing	14 Sheep & Lambs on Feed	15 Egg Products	16 Cold Storage, Naal Stores	17 Eggs, Chickens & Turkeys	
	19	20	21 Cold Storage, Eggs, Chickens & Turkeys	22 Maple Syrup, Naal Stores	23	19	20	21 Farm Labor, Peanut Stocks & Processing	22 Holiday	23	
	26	27 Peanut Stocks & Processing	28 Seed Crops - Annual	29 Farm Labor, Livestock Slaughter	30 Dairy Products, Agr. Prices, Com. Fertilizers	26 Livestock Slaughter	27 Dairy Products, Agr. Prices, Com. Fertilizers				
JUNE		1	2	3 Com. Fertilizers - By Class	4 Egg Products, Poultry Slaughter, Celery			1	2	3 Poultry Slaughter, Celery	DECEMBER
	7	8 Veg-Fresh Market	9 Crop Production	10 Milk Production	11	6	7	8	9	10 Crop Production	
	14 Cattle on Feed	15	16	17	18 Dairy Products, Agr., Cold Storage, Eggs, Chickens & Turkeys	13 Milk Production, Potato Stocks	14 Cattle on Feed	15 Egg Products	16 Veg-Processing - Annual	17 Cold Storage	
	21	22 Grain Stocks, Hops & Pigs, Naal Stores	23 Cherries - June 15	24 Peanut Stocks & Processing	25 Veg-Processing	20 Eggs, Chickens & Turkeys	21 Naal Stores	22 Winter Wheat & Rye Seedings, Hops & Pigs	23 Peanut Stocks & Processing, Veg-Fresh Market - Annual	24 Holiday	
	28 Livestock Slaughter	29 Dairy Products, Agr. Prices (Monthly), Agr. Prices (Annual)	30 Agr. Prices, Com. Fertilizers			27	28	29 Livestock Slaughter, Farm Numbers	30 Agr. Prices, Dairy Products, Com. Fertilizers	31 Holiday	

PASSENGER MOTOR VEHICLES

The 1977 Budget Estimates propose the replacement of three passenger motor vehicles. All passenger motor vehicles of the agency are located in the field at the various state offices. These vehicles, as well as those obtained for use throughout the year from the General Services Administration, are used by professional statisticians, supervisory enumerators, and other field employees in conducting enumerative surveys and related work pertinent to the preparation of the crop and livestock estimates. The use of common carriers in this type of work is not satisfactory in that it is frequently necessary to visit during a short period of time numerous farms and various establishments within a specified geographic area.

The three sedans proposed for replacement during 1977 are necessary to meet the transportation requirements inherent in carrying out the agency's program. The vehicles proposed to be replaced will have passed the minimum replacement standards of 6 years of age or 60,000 miles prescribed by the General Services Administration.

Age and mileage data for passenger motor vehicles on hand or on order as of June 30, 1975, are indicated below:

Age Data			Mileage Data		
<u>Age-Year Model</u>	<u>Number of Vehicles</u>	<u>Percent of Total</u>	<u>Lifetime Mileage (thousands)</u>	<u>Number of Vehicles</u>	<u>Percent of Total</u>
1965	1	7	100-120	1	7
1970	4	27	80-100	2	13
1971	3	20	60- 80	3	20
1972	3	20	40- 60	- -	- -
1973	4	27	20- 40	8	53
Total	<u>15</u>	<u>100</u> a/	under 20	1	7
			Total	<u>15</u>	<u>100</u>

a/ Figures do not add because of rounding.

ECONOMIC RESEARCH SERVICE

Purpose Statement

The Economic Research Service was established by Secretary's Memorandum No. 1446, Supplement No. 1, of April 3, 1961, under Reorganization Plan No. 2 of 1953 and other authorities.

The mission of the Economic Research Service is to develop and disseminate economic information for use by public and private decisionmakers concerned with the allocation and use of resources in agriculture and rural America. In carrying out this work the Service:

- Maintains estimates of current resource use, output, and distribution of food and fiber.
- Identifies the interrelationships of economic forces affecting resource use, production and distribution of food and fiber.
- Develops short-term forecasts and long-range projections of resource use, production and distribution of food and fiber for both probable and possible future events.
- Evaluates the performance of the food and fiber sector in meeting the needs and wants of consumers and overall goals of society concerning such matters as resource ownership and use, income and income distribution, and quality of life.
- Identifies probable and possible structural adjustments in the food and fiber sector and rural America and evaluates their impact on consumers, and overall goals of society.
- Maintains current information on the principal social and economic factors affecting life in nonmetropolitan areas and identifies and evaluates alternative public and private actions which impact on these areas.
- Provides direct assistance and coordinates the USDA's overall program to aid agricultural development in lower income countries.
- Disseminates economic information on a timely basis for current use by decisionmakers in agriculture and rural areas.

The Service functions through a central office in Washington, D. C. and a small staff in each of 35 States, principally at the Land Grant Colleges and Universities. Much of the research is carried on in cooperation with State Agricultural Experiment Stations.

Available Funds and Man-Years

1975 and Estimated, 1976 and 1977

Item	Actual		Estimated		Budget Estimate	
	1975		Available, 1976		1977	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Economic Research Service...	\$22,542,000	752	\$25,793,000	817	\$26,116,000	817
Obligations under other						
USDA appropriations:						
Soil Conservation Service:						
Watershed planning.....	29,486	1	35,000	1	31,000	1
Watershed and flood prevention operation....	155,365	7	168,000	7	146,000	7
Resource conservation and development.....	118,762	5	131,000	5	131,000	5
River basin surveys and investigations.....	2,318,016	106	2,464,000	106	2,392,000	106
National water assessment.....	83,500	-	-	-	-	-
Agricultural Stabilization and Conservation Service:						
To evaluate the public access pilot program ..	62,356	2	-	-	-	-
Rural Development Service:						
Non-metropolitan development district planning programs study.....	25,000	1	-	-	-	-
Food and Nutrition Service:						
Evaluation of national school lunch program....	147,200	3	160,000	3	160,000	3
Extension Service:						
Analyze and interpret EFNEP program data obtained through the programs' information reporting system.....	42,000	1	42,500	1	42,500	1
Farmers Home Administration:						
To evaluation studies and related activities pertaining to water, sewer, and other essential facilities programs.....	37,500	1	10,000	-	10,000	-
Office of Planning and Evaluation:						
Personnel details.....	39,219	1	-	-	-	-
Miscellaneous reimbursements.....	416,040	8	549,600	8	549,600	8
Total, Other USDA Appropriations.....	3,474,444	136	3,560,100	131	3,462,100	131
Total, Agriculture Appropriations.....	26,016,444	888	29,353,100	948	29,578,100	948

Item	Actual		Estimated		Budget Estimate	
	1975		Available, 1976		1977	
	Amount	:Man- :Years	Amount	:Man- :Years	Amount	:Man- :Years
<u>Other Federal Funds</u>	9,761,539	: 112	10,988,900	: 129	11,188,900	: 129
<u>Non-Federal Funds</u>	408,164	: 2	1,611,000	: 18	2,411,000	: 31
Total, Economic Research Service	36,186,147	: 1,002	41,953,000	: 1,095	43,178,000	: 1,108

End-of-Year Employment:	1975 <u>Actual</u>	1976 <u>Estimated</u>	1977 <u>Estimated</u>
Permanent full-time	1,039	1,023	1,023
Other	90	95	90
Total	<u>1,129</u>	<u>1,118</u>	<u>1,113</u>

800-
900-

p 95

83.60
83.50
not not share
75 avail now
forward

ECONOMIC RESEARCH SERVICE

Appropriation Act, 1976.....	\$24,897,000
Budget Estimate, 1977.....	26,116,000
Increase in Appropriation.....	<u>+1,219,000</u>

Adjustments in 1976

Appropriation Act, 1976.....	\$24,897,000	
1976 Supplemental Appropriation		
for pay costs.....	+745,000	
Activity transferred from OPE a/.....	+97,000	
Activity transferred from ASCS b/.....	<u>+54,000</u>	
Adjusted base for 1977.....		25,793,000
Budget estimate, 1977.....		<u>26,116,000</u>
Increase over adjusted 1976.....		<u>+323,000</u>

a/ Pursuant to Secretary's Memorandum No. 1876, on August 18, 1975, all activities relating to long-range forecasting, economic projections, commodity estimates, technology assessment, and alternative futures research, including responsibility for serving as the Department's liaison with the Office of Technology Assessment were transferred to this account from the Office of Planning and Evaluation. Actual transfer of funds of \$86,000 were made in 1976. On a comparable basis the full annual cost of the activities including pay costs is \$97,000 for 1976 and 1977.

b/ Pursuant to Secretary's Memorandum No. 1881, dated September 19, 1975, the functions relating to various economic and statistical analyses of the domestic sugar industry, and the collection and publication of data relating to returns, costs, and profits of the domestic sugar industry were transferred to this account from the Agricultural Stabilization and Conservation Service. Actual transfer of funds of \$53,769 were made in 1976. On a comparable basis the full annual cost of the activities including pay costs is \$54,000 for 1976 and 1977.

SUMMARY OF INCREASES

(On basis of adjusted appropriation)

	<u>1976</u>	<u>Increases</u>	<u>1977 Estimate</u>
Annualization of the pay cost			
increase effective in FY 1976	\$745,000	+\$287,000	\$1,032,000
GSA space rental costs.....	858,000	+ 36,000	894,000
All other.....	<u>24,190,000</u>	--	<u>24,190,000</u>
Total available.....	<u>25,793,000</u>	<u>+323,000</u>	<u>26,116,000</u>

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1975	1976 (estimated)	Increase	1977 (estimated)
1. Economic Analysis and Research.....	\$22,518,043	\$25,793,000	+\$323,000(1)	\$26,116,000
Unobligated balance...	+23,957	--	--	--
Total available or estimate.....	22,542,000	25,793,000	+323,000	26,116,000
Transfer from OPE.....	-97,000	-97,000		
Transfer from ASCS....	-51,000	-54,000		
Proposed Supplemental for pay increase costs:	--	-745,000		
Total appropriation...	22,394,000	24,897,000		

EXPLANATION OF PROGRAM

The basic mission of the Economic Research Service is to conduct economic research and service relating to agricultural production, marketing, and distribution, and to analyze the supply and demand for farm products in foreign countries and their effect on prospects for U. S. exports as authorized by the Agricultural Marketing Act of 1946 (7 U.S.C. 1621-1627), 7 U.S.C. 1761, and other laws.

In carrying out this work, the Economic Research Service develops and carries out a program of economic research designed to provide economic intelligence for the USDA and other Federal decisionmakers, farmers and individuals in related industries and the general public. The findings of this research are made available to these users through research reports and through economic outlook and situation reports on major commodities, the national economy, and the international economy.

The program of the Economic Research Service is divided into two broad areas: (1) Food and Fiber Economics, and (2) Resource and Development Economics. The first area focuses on the entire agriculture industry from farmer to consumer. It contains three divisions: (1) Commodity Economics Division, (2) National Economic Analysis Division, and (3) Foreign Demand and Competition Division.

The Commodity Economics Division carries out a national program of economic research and analysis, statistical programs, and other work relating to the production and marketing of farm commodities. It includes evaluations of the organization and performance of major commodity subsectors; costs and returns to farmers and marketers; situation and outlook; commodity projections; price spreads; and analysis of U.S. farm commodity programs.

The National Economic Analysis Division deals with the entire agriculture sector and centers around the more aggregative issues cutting across commodity lines. This includes consumer demand analysis; agricultural finance; farm inputs; pricing, policy, and program analysis; structure and adjustments in the agriculture sector; long-run projections; and overall performance measures in agriculture such as farm income, the marketing bill, and others.

The Foreign Demand and Competition Division focuses on worldwide supply and demand conditions; the impact of U.S. and foreign policies on world farm trade; and publishes information that traders, government officials, and trade negotiators need to tap world markets.

The second area, Resource and Development Economics, includes the work of three divisions: (1) Natural Resource Economics Division, (2) Economic Development Division, and (3) Foreign Development Division.

The Natural Resource Economics Division centers its research on the use, conservation, development, and control of natural resources and their contribution to local, regional, and national economic growth. Analyses of environmental issues is an important element of this Division's responsibility.

The Economic Development Division maintains current information on the principal social and economic factors affecting life in nonmetropolitan areas and identifies and evaluates alternative public and private actions which impact on these areas.

The Foreign Development Division provides direct assistance and coordinates the USDA's overall program to aid agricultural development in lower income countries. The Agency for International Development provides most of the funds for the operation of this division.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$323,000 for economic analysis and research consisting of:
 - (a) An increase of \$287,000 for annualization of pay increases effective in FY 1976.
 - (b) An increase of \$36,000 for space rental costs pursuant to P.L. 92-313.

STATUS OF PROGRAM

The Economic Research Service has been mandated to develop and disseminate economic information pertaining to agriculture and rural America, and to coordinate USDA training and technical assistance programs for developing countries. Research programs serving the first goal cover many areas--farm income and other measures of economic performance and well-being, agricultural production and marketing efficiency, farm exports and agricultural trade policies, economic development of rural areas, natural resource development and environmental quality, human nutrition, and consumer services. Foreign agricultural development programs include training foreign participants and providing on-site technical aid to developing nations.

RECENT EXAMPLES OF ACTIVITIES AND PROGRESS

ANALYSIS OF FARM PROGRAMS AND POLICIES

This research program measures changes in farm income and the financial structure of the farm sector and analyzes the impact of proposed government programs and policies on farm income, prices, and production. Historic trends and changes in U.S. agriculture are also analyzed.

Policy Analysis: ERS has developed a simulation model of the agricultural sector to help analyze effects of proposed farm legislation. It is designed to estimate the outcome of alternative policies and programs on government costs, crop and livestock prices and production.

Farm Program Impacts: Another model, which simulates historical and free-market production, price, and resource adjustments, was used to measure the impact on farm income and prices of farm commodity programs for 1953-72.

Chronicling Agriculture's History: Researching historical changes in U.S. agriculture enables program and policy officials to make decisions from a broader perspective. Recent products include a history of price support and adjustment programs, a reference list on the history of blacks in American agriculture, a history of USDA economic research, and publication of a reference list on USDA history. Work on the Bicentennial includes a symposium on 200 years of change in American agriculture co-sponsored by ERS, the Smithsonian Institution, and the Agricultural History Society, and a historical series on the American farmer, now appearing in The Farm Index, ERS' research reporting magazine.

Farm Income Estimates and Forecasts Improved: A task force of agricultural economists recommended improvements which are now being implemented. For the first time, ERS used survey data on marketings of major crops to estimate cash receipts for the same year. Before, such data were not available until almost 18 months after the end of the year the crops were produced. Farm income forecasts have also improved. Now they are reappraised more often, particularly when crop output and export conditions change and turnarounds appear imminent for major livestock items.

Return to Equity Based on Farm Size: Preliminary ERS research now indicates that farm returns to equity resources differ substantially by economic classes and that value of assets (particularly land) on many smaller operations bears little relation to their agricultural productivity. Therefore, returns to equity on these smaller farms may appear extremely low or negative. Net farm income by economic size class had been published for years, but these rates of return to equity capital by farm size are new tabulations.

Definition of a Farm: Since 1850, the official definition of a farm has been rewritten eight times in an effort to keep pace with actual changes. Now, a farm is "an establishment from which \$1,000 or more of agricultural products is sold or would normally be sold during the year." The new definition eliminates backyard farmers and very small-scale farms, and will result in fewer farms being recognized as such. New farm class definitions also will provide more meaningful farm statistics and aid

economists in determining who is receiving farm income. Income and other comparisons will be available on both the old and new definitions during a transition period.

Upcoming Projects: ERS will complete a report on U.S. sugar outlook and policy, which will focus on probable levels of domestic and world sugar supplies to 1980 without a U.S. sugar program or domestic price and support policies. A wheat simulation model, which will increase capability to analyze economic reserve stock policies on a quick turnaround basis, will be refined. Development of a similar model for feed grains is also underway. Historical projects include a 12-chapter book on American agricultural history to be published in January 1976, a history of food marketing, and publication of a bulletin on the history of agricultural transport from farm to market.

ANALYSIS OF FARM STRUCTURE, RESOURCE USE, AND PRODUCTIVITY

Research focuses on current farm organization and costs and returns of alternative farm operations, practices, and technology. Analyses also are made of aggregate input requirements and supply, efficiency of resource use in livestock production, and forces shaping the future economic configurations of U.S. agriculture.

Analysis of U.S. Rice Industry: ERS has completed a study showing how domestic farm programs, world supplies, and the semiperishable nature of rice affect the structure and performance of the industry. It provides insight into the causes of price movements affecting producers' incomes and the U.S. competitive position in world rice markets.

Cotton Production Research: In a continuing study of cotton production systems in the Delta region, minimum tillage was found to reduce per acre production costs and increase net farm income. This system, which employs a narrow skip-row planting pattern, cuts costs more than \$50 per acre compared to usual tilling practices.

How Much Does It Cost to Produce Cotton, Grain, and Milk? Congress provided funds to ERS in FY 1975 to obtain data on the cost of cotton, grain, and milk production. Reports on the cost of producing wheat, corn, grain sorghum, barley, cotton, flax, rice, peanuts, and milk will be completed in FY 1976.

Report on Energy Use: For the Senate Committee on Agriculture and Forestry, ERS has done a study, U.S. Food and Fiber Sector: Energy Use and Outlook. It shows that this sector of the economy accounts for about 13 percent of the Nation's total energy use. Based on a report on this work, ERS has begun to study energy conservation possibilities in the farm production sector and has completed a compendium of related energy research.

Farming and Agribusiness Study: There is a growing concern about the role of large firms in the production of agricultural commodities, and about direct agricultural production by companies with primary business interests outside farming. An ERS study on large multi-unit firms with farming operations and total annual sales of \$1 million or more provided some benchmark information. More than one-fifth of the 410 firms studied had a primary activity that was not directly related to the food and fiber sector.

Pesticide Supply Evaluation: Spurred by concern about pesticide shortages, ERS prepared a report on the pesticide supply-demand situation in 1975. This study provided timely market and outlook information including capacity, production, prices, extent of shortages, and impact of various factors on supply.

Upcoming Research: Projects planned range from a study of the future of burley tobacco farming to continuing research on energy use in various farm production operations. Other projects include a study of the effect of new production and merchandising technologies and public policies on the structure of agriculture; a survey of the cost of producing meat animals and certain selected fruits, vegetables, sweeteners, and poultry; development of a series of budgets for approximately 50 typical U.S. farms as part of the Firm Enterprise Data System (FEDS); and joint ARS-

ERS research on meat animal production at the Meat Animals Research Center in Clay Center, Nebraska.

FORECASTS AND PROJECTIONS OF SUPPLY, DEMAND, AND PRICES

This part of the program provides public officials, farmers, consumers and other market interests concerned with the production, marketing, and pricing of food and fiber with short-term forecasts of supply, demand, and prices for major farm commodities. Other program output includes evaluating technological and economic impacts on commodity markets, simulating behavioral and structural supply and demand relationships for farm commodities, and making alternative projections of future agricultural conditions.

Improved Forecasting: ERS continues to strengthen its forecasting performance through improved forecasts for individual commodities. In FY 1975, Congress provided additional funds, which were largely used to establish a Forecasting Support Group that has developed a formal cross-commodity forecasting system and that periodically evaluates overall ERS forecasting performance.

Projection of U.S. Agriculture to 1985: An analytical system that projects the future of American agriculture to 1985 under alternative scenarios has been developed. These projections, which have been used as a basis for several long-run outlook studies, include prices paid and received by farmers; aggregate farm output; production expenses; gross and net farm income; and supply, price, and use of 31 farm commodities. The 1985 projections indicate that agriculture has the capacity to meet expanding food and fiber needs both at home and abroad.

Commodity Futures Trading Studied: Two major studies were completed for the Commodity Exchange Authority. This research will aid in administering the Commodity Futures Trading Commission Act of 1974, which provides increased Federal authority to regulate futures markets. The first study concerns the definition of hedging, which is the responsibility of the Commodity Futures Trading Commission under the new Act. The other project, by a joint USDA-Industry Study Team, examines futures trading data systems. A proposal was developed from this research for a new data system that will improve detection of irregularities, such as price manipulation and other trade abuses.

Comparison of Grass and Grain-fed Beef: As animals off pastures and ranges became more available for slaughter and interest in the issue of grain-fed animals versus grain for human food increased, consumers wanted information on the nutritional value and quality of nonfed beef. ERS research findings to date have clarified many misconceptions held by the public. They point out that limited grain feeding is still probably the most economical method for producing beef in the quantity demanded by American consumers. ERS has provided information on this topic through a continuing discussion in Livestock and Meat Situation. Possible scenarios in the shift toward nonfed beef also were analyzed for the Council of Economic Advisers and USDA policymakers.

How the Food and Fiber System Works: A study of the current structure and performance of the food and fiber system described its four main parts--the input, farm, marketing, and consumer sectors. The report described recent events involving energy, international trade and monetary policy, and domestic economic controls that disrupted the system's previous smooth performance, and explored opportunities for more efficient future performance.

New Periodical: ERS began publication in early FY 1976 of Agricultural Outlook--a monthly report that focuses on the relationships among U.S. agriculture, the economy, and the rest of the world. This new publication, which also digests, analyzes, and updates commodity and foreign agricultural production and trade developments, joins the other ERS situation and outlook reports in providing timely agricultural information.

New Sugar Publication: A new quarterly situation report, Sugar and Sweetener Situation, was initiated in August 1975. During the past year, 54 other commodity situation and outlook reports were published.

Upcoming Activities: New studies that will get underway include a national cash grain pricing survey that will report methods of buying and selling wheat, corn, soybeans, and sorghum at 3,000 grain elevators. A projection of soybean demand to 1985 will emphasize the impact of foreign supply and demand on the U.S. soybean industry, which is now experiencing serious competition from abroad. Revision of per capita food consumption and farm commodity supply-utilization indexes, and a pilot study exploring the need for a reporting system for fruit and vegetable contracts are also planned.

ANALYSIS OF MARKET STRUCTURE AND PERFORMANCE

About two-thirds of consumers' total food expenditures go to service performed by the food distribution industry. ERS research charts the changes in this industry, what causes them, and their impacts. Marketing analysis explores farm-retail price spreads, marketing costs and profits, and the farmer share of the consumer food dollar. It also assists producers and distributors in taking advantage of domestic marketing opportunities and analyzes the road to market by evaluating how well the transportation system serves the farmer.

Estimating Marketing Margins: Research on marketing margins continues to identify the farmer's share of the food dollar. Monthly, quarterly, and yearly estimates on the cost and profit components of margins keep consumers abreast of where their food money is going. During the past year, refinements were made in calculating farm-retail price spreads for sugar, dairy products, beef, and pork. Margin costs and profit estimates are now available for 65 individual foods.

Study of the Sugar Industry: A joint ERS-Farmer Cooperative Service study on factors determining price movements in the sugar industry emphasized 1974-75 price changes, effect of world sugar prices on domestic sugar price movements, changes in the structure of the sugar industry, and the industry's performance. Preliminary results indicated the top four sugar companies accounted for 52.5 percent of all sugar distributed in the United States in 1960, but that dropped to 49 percent in 1974. However, the top 10 companies accounted for 75 percent of sugar distribution in 1974, slightly more than in 1960. The study also showed that U.S. and world price movements correlated closely during 1974 and early 1975.

Information on the Away-From-Home Food Market: ERS expanded and updated the information base on industry structure and organization, commodity movement and use, and economic and physical characteristics of establishment in the away-from home food market. The first part of a three-section study on prepared foods was completed in FY 1975. It deals with new food forms and delivery systems. The other sections will focus on food service operators and distributors.

Impact of Rail Reorganization on Rural Areas: Railroads still provide rural areas with vital links to the marketplace, but rail abandonment in certain areas of the Northeast and Midwest will not adversely affect all farm interests. An ERS study of potential impacts of proposals to restructure rail service under the Regional Rail Reorganization Act of 1973 shows that only feed and fertilizer dealers presently transporting by rail will "probably suffer either direct financial loss or a reduction of their growth potential." Grain dealers, farmers, and consumers are not considered likely to suffer overall adverse effects, although farmers may face increased transportation costs.

Review of Market Order Program: Concern about rising food prices has brought all government-sponsored or monitored programs that directly regulate quantities or prices of foods under close scrutiny. For the first time, a USDA task force led by ERS examined the potential inflationary impact of market orders, which provide part of the mechanism for establishing producer level milk prices and regulating the quantity and quality of many fresh-marketed fruits and vegetables. The task force report considers all market order programs and provides a concise reference on market order objectives, operations, and impacts.

Upcoming Activities: These include a comprehensive study of convenience foods; development of a framework for estimating food and fiber sector employment, wage bills, and the impact of wage increases on food costs; and an analysis of the pricing structure and production and marketing systems of the grain industry. Other ERS plans include a projection of agriculture's total transportation requirements for 1985, publication of a handbook of frequently used statistics on transportation and storage of agricultural products, and initiation of a program to improve performance data on agricultural input, food processing, and food marketing industries.

AGRICULTURAL EXPORTS AND TRADE POLICIES

This part of the program examines situations and developments around the world that have an impact on U.S. farm trade. It monitors U.S. and world agricultural trade by country and commodity, analyzes financial and monetary conditions in foreign nations, and develops long-term projections of agricultural supply and demand in world markets. Other research includes analyses of foreign weather and crop production relationships, and investigation of new or expanding foreign markets for U.S. farm goods. Forecasting of U.S. agricultural exports has become increasingly important to farmers and the agribusiness industry with the phenomenal increase in the value and volume of exports in recent years. ERS cooperates with the Foreign Agricultural Service to provide accurate, timely information on global agricultural conditions that is essential for program and policy decisions.

Export Potential for Fast Food Chains: A study of U.S. fast food chains with foreign outlets projects a 50-percent expansion in U.S. sales outlets, and a 250-percent increase in foreign sales by 1979. Export potential for U.S. products in foreign fast food outlets is estimated to reach \$800 million by 1979. Japan is the primary target for this expansion.

Grain Reserves: Widespread concern about supplies and prices of basic foodstuffs has led to ERS reports on (1) causes, sources, and magnitude of year-to-year fluctuations in world grain production and trade, (2) alternative grain levels necessary to meet single-year shortfalls in world grain production, (3) criteria for sharing the burden of holding world grain reserves, (4) timing and price implications of building U.S. and world grain stocks, and (5) impact and costs of selected world grain reserve policy proposals.

World Fertilizer Situation Eased: A report issued by ERS in cooperation with other agencies approached the problem from the viewpoints of agricultural needs and impact on food production, and it related the world fertilizer supply and demand to the energy and food situations. Results of the study correctly forecast an easing of the world fertilizer situation by 1975-76, and suggested the possibility of significant surplus fertilizer capacity in the late 1970's.

New Projection Techniques: Improved analytical techniques were used to update projections of world supply, demand, and trade to 1985 in grains, oilseeds, and livestock products. The new model makes projections under four main alternatives: (1) modified continuation of trends and policies, (2) high demand growth situation, (3) low demand growth situation, and (4) high demand and high productivity growth in the developing world. Some projections: In the next decade the world is capable of producing enough grain to meet the demand of a largely cereal diet in the developing world and a moderately rising feed demand elsewhere. Barring a strong push to raise cereal production in the LDC's, they will continue to increase their dependence on the developed world for food.

World Food Situation and Prospects to 1985 Widely Used: Published in December 1974, this report was a major contribution to understanding world food policy issues such as food reserves, food aid, and agricultural development. It received extensive use during the past year by FAO, national and international organizations, periodicals, conferences, extension specialists, teachers, foundation officials, and other private groups. It has been widely recognized for its balanced assessment of complex issues that are of concern to national and international officials at the highest level. Now 35,000 copies of the original report are in print, as are 10,000 copies of a highlight leaflet.

Additional Research: In FY 1975 ERS basic economic information on U.S. and world agricultural trade and development of short-term forecasts featured special analyses of the new trade roles of the OPEC countries, the Peoples' Republic of China, and the enlarged European Community. Upcoming activities include statistical analysis of world weather data now being assembled, projection of Soviet feed and livestock demand, monitoring the world fertilizer situation, and analyzing the potential for trade in foreign country markets with emphasis on major U.S. export commodities. A major study of the food situation in the Western Hemisphere, being prepared for release in April 1976, will provide background for an OAS agricultural conference. It will emphasize trade possibilities, sources and rates of agricultural growth for countries and for the region, barriers to rapid growth, and ways of eliminating them. The U.S.-USSR Joint Working Group on Agricultural Research and Information will continue joint research on techniques of forecasting agricultural production.

RURAL DEVELOPMENT

This part of the program serves public officials and private interests concerned with improving rural life. Research includes identifying and evaluating demographic characteristics and trends; describing and evaluating trends in the rural labor force; measuring the socioeconomic and institutional well-being of rural people; assessing economic growth in rural areas; and finding ways to improve evaluation of rural services such as water, sewerage, medical care, education, housing, energy, and other local government services; and appraising adjustments necessary to enhance the well-being of nonmetropolitan people.

Nonmetro Areas Gaining Population: Nonmetro areas and small communities grew at a faster pace than metro areas in 1970-74. This ERS research generated much public and press interest. Nonmetro counties averaged more than 300,000 net immigration each year in the 1970's, compared with similar net losses during the 1960's. Growth of the largest metro areas essentially halted during 1970-74, and smaller metro areas grew slower than during the previous decade. Of the 1,297 nonmetro counties declining in population during 1960-70, 833 grew during 1970-73 while 464 continued to decline. Of the 1,188 growing in 1960-70, 89 percent continued to grow in 1970-73. Related research gives a profile of U.S. population by size of community; and completion of net migration estimates by age, sex, and color for every county is a major research contribution.

Rural Labor Force Benchmark Study: This study involves a comprehensive inventory of the quality, quantity, and worker characteristics of the rural labor force used, county data to determine relative differences in manpower resources and utilization. County status, and per capita income, will be published for each State. This information should be useful to plant locators, investors, and administrators of manpower programs under the 1973 Comprehensive Employment and Training Act (CETA).

Housing Credit in Rural Areas: A comparison of 1971 Census data on existing mortgages for metro and nonmetro areas showed the following patterns: home buyers in rural areas paid higher interest rates and had shorter repayment periods on conventional loans than did their urban counterparts; rural buyers made less use of mortgage funds in the purchase of a home than urban buyers; and fewer mortgages were insured or guaranteed by a Federal agency in nonmetro than in metro areas.

Improving Emergency Medical Services: An ERS study of Northwest Oklahoma developed methods which can be used to estimate local demand for emergency care services, potential revenue from such services, and expenses associated with alternative systems for providing services through hospital-based systems, fully staffed systems, or volunteer systems associated with police or fire departments. The methods are designed to be used by local leaders to help them choose a service best for their communities.

Flue-cured Tobacco Adjustments: Prospects for harvest mechanization on flue-cured tobacco farms have been evaluated. Projections for 1976 indicate mechanical harvesters will be used on 23-36 percent of the flue-cured tobacco acreage, compared with 1 percent in 1972,; and farmers will use bulk barns to cure an expected 65-80

percent of the crops in 1978, up from 8 percent in 1972. If these changes occur, labor needed for harvesting may fall by half between 1972 and 1978.

Small Town Trends: Growth trends for nonmetropolitan cities and towns of under 50,000 people during 1950-70 show that, contrary to popular belief, the great majority of them increased in population. Only those of less than 500 population were more likely to decline than grow.

Organization of Rural Fire Departments: Many rural communities are served by volunteer fire companies. From time to time some of these change from a volunteer to a paid basis. An ERS study reported that the shift from all volunteers to some full-time firemen tends to occur where average family income is high, and where the percentage of a community's tax revenue paid by property owners is low. The report considers the implications for revenue sharing of using volunteers or paid firemen.

Additional Research: An estimate of farm property taxes for 1974, describing recent trends, was published. A study requested by the Department of Labor identified the magnitude, demographic characteristics, income, and related information on farm wageworkers eligible for participation in the national migrant and seasonal farmworker programs under the 1973 Comprehensive Employment and Training Act (CETA).

Research for FY 1976-77 will include continuing work to discover where the migrants are coming from, their age, sex, earnings, and type of business. Another study will concentrate on providing ethnic profiles of the hired farm working force, and describing them by region, education, days worked, duration of farm wage work, wages earned, age, sex, family income, and household size. Congressional hearings have stressed the need for such statistics, because of legislation such as CETA target minority groups for special consideration. Other research will focus on the effects of public service employment in rural areas, the needs of the rural elderly, the rural housing situation, areas with critical health manpower shortages, impact of mechanization on flue-cured tobacco area economies, and the impact of energy development on local economies and local governments in the Northern Great Plains.

ENVIRONMENTAL QUALITY ISSUES

This part of the program studies environmental policies, practices, and standards relating to agricultural production. It determines the impact of various environmental standards on farmers and processors, and their effect on food and fiber supplies and prices; estimates costs of new pollution control technology and management practices; and evaluates ways that agricultural, recreational, and rural community needs can be fulfilled with minimal effect on the environment.

Economic Impact of EPA Guidelines on Animal Waste: Regulations arising from environmental concerns are an important issue for the animal feeding industry. EPA is revising point source effluent guidelines. ERS, working with other USDA agencies, is currently evaluating the economic effect of the revised guidelines on feeding operations of various sizes in the beef, dairy, swine, and turkey industries.

Costs of Reducing Pesticide Use: Public concern over pesticide use continues, and ERS studies of the economic effects of banning certain pesticides are a timely and important contribution to this issue. The Office of the Secretary, USDA, EPA, Council on Environmental Quality, and the Congress use the ERS economic impact studies. A FY 1975 study found that emergency use of DDT in Louisiana would have increased net income of Louisiana cotton farmers by from \$14.1 to \$17.3 million. Preliminary results of another study of the economic impact of discontinuing farm use of toxaphene, indicate use of alternative insecticides in 1975 would cost farmers \$26 million--\$15 million for crops and \$11 million for livestock. For controlling some insects, there are no effective alternatives to toxaphene.

Water Quality Regulations for Tomato Processing: Water pollution control regulations are expected to speed the decline of the processing tomato industry in the East and Midwest, as many small processing plants close. In California the number of large tomato processing plants may increase slightly. Prices of tomato products are expected to rise 1 to 4 percent per year due to pollution control costs.

Economic Effects of Controlling Soil Loss: Controlling soil loss to reduce sediment levels is an environmental goal on which action may be taken. A 3-ton-per-acre soil loss restriction in the Iowa-Cedar River Basin would increase variable costs of production patterns and methods, such as shifting row crop production to less erosive soil groups, changing crop rotations, and going from conventional to minimum tillage operations.

Predator Control in the Sheep Industry: A study is underway of the economic impact of various ways to control sheep losses from predators in 15 Western States. It considers effects on sheep producers, the regional economy, and consumers. Early findings indicate that 6.4 percent of all docked lambs and 2.5 percent of all stock sheep were lost to coyotes in 1974 in those 15 States. Additional research will evaluate the structure of the sheep industry and its use of labor and management, consider alternative ways to limit sheep losses, and examine public attitudes toward predator control.

Upcoming Research: Studies for FY 1976-77 include (1) regional and national estimates of the effect of selected regulations or management practices to reduce nonpoint source pollutants to surface water, including nitrogen and salinity levels; (2) a study of the effects of expanded coal development and processing in the Northern Great Plains on agriculture, resource use, and resource competition and environmental quality; (3) a study of the environmental and economic effects of changes in use of pesticides on selected crops and livestock; (4) a study of rural water quality and sewage systems; (5) three reports on solid waste management in rural areas of the Southeast; and (6) an evaluation of EPA-proposed revised regulations to control runoff from animal feeding operations.

USE AND DEVELOPMENT OF NATURAL RESOURCES

Rural land and water are precious national resources. This part of the program helps public and private decisionmakers conserve, develop, and manage rural land and water resources. ERS keeps inventories of the Nation's land and water resources, identifies resource ownership patterns and evaluates their impact on resource use, and estimates resources needed for agricultural, energy, urban expansion, and other uses. It also estimates the effects of natural resource policies and programs on community income growth, and improves procedures for natural resource planning, conservation, and development.

Impacts of Water Resources Development: A study of future land reclamation by the Bureau of Reclamation indicates it will have modest effects on production of grains, but new projects would have a greater effect on potatoes, citrus fruits, cotton, and vegetables.

Changes in Cropland Base: A report describing changes in acreage and use of cropland from 1949 through 1974 emphasized the 1969-74 period. In 1972 cropland harvested was at a low of 289 million acres, but with increases in both exports and prices in 1972 and 1973, cropland harvested jumped to 326 million acres in 1974. The Plains States account for a high proportion of current additions to the cropland base.

Conversion of Rural Land to Urban Uses: A study has been made of land use and changes between 1960 and 1970 in 53 selected urbanizing counties. Between 1960 and 1970, a fifth of the total U.S. population increase occurred in these 53 counties, although they represent only 1 percent of the area of the 48 States. Despite population growth, these counties remained important agriculturally. At the end of the period, cropland occupied slightly over 30 percent of the area of these urban counties, down 3 percent in the decade.

Irrigation Water Use: Data was compiled on the extent of irrigation, source of water, and methods of applying irrigation water. In 1969, 12 percent of cropland harvested was irrigated, and some 27 percent of the value of crop production came from irrigated land. Groundwater has been increasing in importance as a source of water.

Perspectives on Prime Lands: America's land must produce more food and fiber today than ever before. At the same time, additional space is needed for homes, factories,

roads, parks, wildlife and recreation, power plants, and other competing uses. These needs should be weighed in light of the longterm impact on farm and forest production. A special seminar (with a subsequently published set of papers) was recently held on Perspectives on Prime Lands. It was sponsored by the USDA Committee on Land Use chaired by Assistant Secretary Robert W. Long. ERS researchers were instrumental in organizing the seminar.

State Programs for Land Use Management: ERS assessed the California Land Conservation Act of 1965, and concluded it has had mixed success as a land use management tool. The Act didn't seem to affect the allocation of land use in the rural-urban fringe, but it did help increase the viability of agriculture in more remote rural areas by changing the tax treatment of land in sustained agricultural use. Recommendations were made for other States considering similar types of land use legislation.

Upcoming Projects: Future research will concentrate on the impact of agricultural water shortages; use of irrigation water in the Central Plains; impact of urbanization on land use; energy development and its competition with agriculture for land and water; the extent of alien ownership of land and other natural resources in the United States; further analysis of State land use programs, such as New York and Pennsylvania; and completion of Volume III of Water Rights Laws in the Nineteen Western United States.

CONSUMER ISSUES

This part of the program is addressed to consumer interests and welfare. It provides information to help consumers in buying agricultural products, identifies needs and preferences of individual and institutional buyers, and assesses how well the food and fiber sector is doing in meeting these needs and preferences.

Consumer Satisfaction Study: Participants at all levels of the food industry want clearer indicators about the consumer. ERS conducted the first nationwide consumer survey to determine the level of satisfaction with food products, food stores, advertising, and responsiveness of the food industry in meeting consumer demands. Two-thirds of the 1,831 respondents said they were always or almost always satisfied with food products, but 70 percent were unhappy with certain foodstores or food products, particularly tomatoes and other fresh produce, and convenience foods. They also questioned the reliability of food advertising. Few consumers actually complained to manufacturers, public officials, or consumer protection agencies. This survey will be updated during FY 1976.

Open Dating Studied: Information was obtained on use, code characteristics, future plans, and industry attitudes toward open dating--the labeling of foods to indicate how long they are good for sale, etc. Problems include confusion about terminology definitions, lack of uniformity in local and State laws, variation in use of codes and presentation methods, and differences of opinion about the need for open dating. A survey of consumer knowledge, use, and preferences about open dating adds more information, and results of these studies can suggest improvements to be made.

Upcoming Study of Consumer Attitudes and Behavior: A recurring survey of consumer behavior, attitudes, and motives will begin in FY 1976. Topics will include use of processed and synthetic foods; use of new foods, including protein extenders; effects of tight food supplies and higher food prices; food shopping patterns; consumer awareness and use of label information such as open dating, grades, ingredients, and nutritional content; unit pricing; and the extent of home food growing and preserving.

Getting Economic Information to the Consumer: A monthly TV news service was begun last summer by ERS. Three 1½-minute videotape news features are sent to requesting TV stations in the 40 top consumer markets nationally each month for playing on their evening news hours. Over 40 stations are now subscribing to the service. Their coverage reaches nearly 100 million potential adult viewers, in areas which also include over 3 percent of the nation's farms and over 6 percent of our rural population.

FOOD AND NUTRITION

This part of the program offers information on the domestic food assistance programs, including the USDA School Lunch, Food Stamp, and Food and Nutrition Education Programs. It is largely financed by the Food and Nutrition Service.

In FY 1975, ERS analyzed participation in child feeding and food stamp programs, and contributed to the comprehensive study of the Food Stamp Program requested by Congress. Studies included estimates of the benefits of these programs to agriculture and the general economy; the number of students eligible for free and reduced price lunches in the National School Lunch Program; effects of controlled price increases on school lunch participation; costs of foods purchased by USDA and local school systems; effects of bonus food stamps and cash income supplements in expanding demand for food; and evaluation of the Food Stamp Program.

In FY 1976-77, continued and expanded monitoring of the programs will include a study of the average cost of preparing and serving school lunches and breakfasts; findings for each State on the demand for school lunch and participation in the child feeding programs; an extended national analysis of school lunch programs and their effects on the economy; and continued study of participation in the Food Stamp Program.

FOREIGN AGRICULTURAL DEVELOPMENT: TRAINING AND TECHNICAL ASSISTANCE

ERS coordinates efforts of 16 USDA program agencies, providing technical assistance and training to promote economic development of the agricultural sector in low-income nations.

1. Training Foreign Participants

The transfer to foreign agriculturalists of essential skills and technologies for improving agriculture in developing nations will help alleviate the shortage of trained agricultural professionals in those countries.

In the past 26 years, about 61,000 foreign agriculturalists have been trained through USDA. In FY 1975, USDA was directly responsible for training 1,259 AID- and FAO-sponsored participants who received 8,531 months of training in the United States. ERS also arranged and/or provided training for approximately 331 participants referred by other agencies plus 502 participants not sponsored by the U.S. Government.

ERS coordinated or conducted 28 special courses in the United States, including two new courses, "Soybean Processing for Food Uses" and "Technical and Economic Aspects of Soybean Production." Three specialized courses in "Agricultural Capital Projects Analysis" trained 79 participants in Swaziland, Thailand, and Zaire.

Upcoming plans for the training program include coordination between USDA, AID, and host country governments to prepare more precise training program objectives; greater integration of appropriate academic and practical training; and a more systematic evaluation procedure. In response to needs identified by 57 USAID missions, specialized training courses and teaching materials will increase in such areas as small farmer credit policy, agricultural policy formulation and analysis, economic forecasting, management, and irrigation.

2. Technical Assistance

The transfer of technical and economic expertise from the U.S. agricultural community to the developing countries increases productivity, improves food distribution and quality of diets, enhances the use and protection of land and water resources, and helps institutions plan agricultural development programs. In FY 1975, about 470 USDA specialists provided technical assistance abroad.

New Mideast Arrangements: A Middle East Regional Office was established in FY 1975 to handle technical assistance requests principally from Egypt, Saudi Arabia, Iran, and Jordan. These requests are the result of the Joint Commission on Economic Cooperation agreements entered into by the U.S. Government. Projects in Saudi Arabia and Iran will be financed under a reimbursable contractual arrangement.

Other Regional Programs: The Department's West Africa Major Cereals team in Nigeria is winding up its project to improve corn, millet, and sorghum varieties. The Precision Land Leveling project in Pakistan continued, and an agricultural research project was initiated there. Other Asian assignments were in Afghanistan, Indonesia, Nepal, Philippines, and Thailand.

Work of 174 short-term specialists in Latin America assisted in developing and evaluating a number of loan proposals and in conducting sector analyses in several countries of the region.

Worldwide Projects: Programs that have implications for many countries include (1) overcoming nutritional deficiencies in the food deficit countries by fortifying bread or other basic foods with protein, vitamins, and minerals; promoting indigenous foodstuffs; and developing weaning foods; (2) dissemination of plant and seed materials and maintenance of germ plasm stock; (3) utilizing extension services to provide rural families with information in support of national population programs; (4) preparing agricultural production indices for principal crops and livestock; and (5) developing solar kilns for drying lumber in LDC's.

Economic and Information Gathering Assistance: Basic economic information on national agriculture is a prerequisite for development planning. Economists and statisticians are playing an important role in agricultural planning as well as data development and use, for example, in Africa (Liberia, Ghana, Ivory Coast, Tunisia, Rwanda, Zaire, and the Sahel countries), Asia (Indonesia, Nepal and Thailand), and Latin America (Dominican Republic, El Salvador, Nicaragua, Bolivia, Guatemala, Honduras, Panama, and Paraguay).

Technical Programs: The Soil Conservation Service assists various countries, such as Liberia, Pakistan, and Tunisia, with land and water management. Other continuing efforts include a 5-year program to develop Pakistan's agricultural research capability, and a tsetse fly project in Tanzania. The Agricultural Research Service, Forest Service, and Extension Service provide continuing programs of sharing technical expertise.

New Partnerships in Technical Assistance: As USDA involvement in foreign assistance increased, particularly under the Joint Commission for Economic Cooperation, it formed a partnership with universities, under the auspices of the International Science and Education Council. This will help make more effective use of limited U.S. resources available in meeting the increased demand. USDA is also expected to enter into new agreements with a number of countries in FY 1976 not funded by USAID, providing technical assistance to increase production on a reimbursable basis.

Obligations and Man-Years In FY 1975-1977 for the Economic Research Service
are Distributed by State as Follows:

State	FY 75 Oblig.	FY 75 Mys.	FY 76 Oblig. (est)	FY 76 Mys. (est)	T.Q. Oblig. (est)	T.Q. Mys. (est)	FY 77 Oblig. (est)	FY 77 Mys. (est)
Alabama	50,983	2	53,289	2	12,823	1	53,289	2
Alaska	---	---	---	---	---	---	---	---
Arizona	210,318	7	159,943	7	39,986	2	159,943	7
Arkansas	382,054	15	386,712	15	96,304	4	386,712	15
California	566,126	20	559,462	19	139,866	5	559,462	19
Colorado	382,486	12	395,867	12	98,967	3	395,867	12
Connecticut	---	---	---	---	---	---	---	---
Delaware	---	---	---	---	---	---	---	---
District Columbia	18,993,925	628	23,900,547	723	6,045,510	181	24,925,547	735
Florida	146,423	5	127,086	5	31,772	1	127,086	5
Georgia	245,036	8	250,539	8	62,632	2	250,539	8
Hawaii	---	---	---	---	---	---	---	---
Idaho	---	---	---	---	---	---	---	---
Illinois	253,231	8	223,505	8	55,876	2	223,505	8
Indiana	174,507	6	179,482	6	44,871	2	179,482	6
Iowa	113,133	3	97,795	3	24,449	1	97,795	3
Kansas	107,072	4	155,164	4	38,791	1	155,164	4
Kentucky	29,600	1	32,023	1	8,006	1	32,023	1
Louisiana	137,638	5	144,614	5	36,154	2	144,614	5
Maryland	5,662	---	---	---	---	---	---	---
Massachusetts	20,000	---	---	---	---	---	---	---
Michigan	413,154	15	452,798	16	113,199	4	452,798	16
Minnesota	156,241	4	141,713	4	35,428	1	141,713	4
Mississippi	206,008	7	212,105	7	53,013	2	212,105	7
Missouri	117,454	3	124,510	3	31,128	1	124,510	3
Montana	72,862	3	9,572	3	2,393	1	9,572	3
Nebraska	459,943	19	492,956	19	123,240	5	492,956	19
Nevada	---	---	---	---	---	---	---	---
New Hampshire	83,868	2	69,899	2	17,475	1	69,899	2
New Jersey	---	---	---	---	---	---	---	---

continued --

Obligations and Man-Years In FY 1975-1977 for the Economic Research Service
are Distributed by State as Follows: (continued)

	FY 75 Oblig.	FY 75 Mys.	FY 76 Oblig. (est)	FY 76 Mys. (est)	T.Q. Oblig. (est)	T.Q. Mys. (est)	FY 77 Oblig. (est)	FY 77 Mys. (est)
New Mexico	---	---	---	---	---	---	---	---
New York	89,014	3	77,835	3	19,459	1	77,835	3
North Carolina	191,428	5	117,879	5	29,470	1	117,879	5
North Dakota	58,437	2	34,113	2	8,528	1	34,113	2
Ohio	---	---	600	---	150	---	600	---
Oklahoma	445,582	13	282,715	13	70,679	3	282,715	13
Oregon	264,020	11	279,655	11	69,914	1	279,655	11
Pennsylvania	400,068	22	373,354	22	93,339	1	373,354	22
Rhode Island	---	---	---	---	---	---	---	---
South Carolina	92,783	3	99,948	3	24,987	1	99,948	3
South Dakota	29,867	1	30,665	1	7,666	1	30,665	1
Tennessee	37,363	1	39,533	1	9,883	1	39,533	1
Texas	139,539	5	237,839	5	59,460	1	237,839	5
Utah	69,336	3	72,057	3	18,014	1	72,057	3
Vermont	---	---	---	---	---	---	---	---
Virginia	59,850	1	44,865	1	11,216	---	44,865	1
Washington	148,785	5	129,095	5	32,274	1	129,095	5
West Virginia	26,511	1	27,827	1	6,968	---	27,827	1
Wisconsin	195,529	6	184,439	6	46,110	2	184,439	6
ERS, Total	25,575,836	859	30,202,000	954	7,620,000	239	31,227,000	966

PASSENGER MOTOR VEHICLES

The 1977 Budget Estimates propose the purchase of 2 replacement passenger motor vehicles.

The passenger motor vehicles are used (where use of common carrier or G.S.A. vehicles is not feasible) for necessary field travel in carrying out the mission of the Economic Research Service.

Replacement of passenger motor vehicles. Replacement of 2 of 5 vehicles now in operation is proposed. These 5 vehicles are located in 3 field stations. All vehicles proposed for replacement have a mileage of more than 60,000 and are more than 6 years of age.

Age and mileage for passenger vehicles on hand as of June 30, 1975, is as follows:

Age Data			Mileage Data		
<u>Age-Year Model</u>	<u>Number of Vehicles</u>	<u>Percent of Total</u>	<u>Lifetime Mileage</u> (thousands)	<u>Number of Vehicles</u>	<u>Percent of Total</u>
			100-120	1	20
1970 or older	4	80	80-100	1	20
1971	- -	- -	60- 80	2	40
1972	- -	- -	40- 60	- -	- -
1973	1	20	20- 40	1	20
Total	<u>5</u>	<u>100</u>	Total	<u>5</u>	<u>100</u>

FARMER COOPERATIVE SERVICE

Purpose Statement

The Secretary of Agriculture established Farmer Cooperative Service (FCS) in December 1953, after Congress, in the Farm Credit Act (Public Law 202, August 6, 1953), transferred its functions from Farm Credit Administration to the Secretary of Agriculture.

The Secretary has assigned to the Service (1) functions under the Cooperative Marketing Act of 1926 (7 U.S.C. 451-457), and (2) functions that relate to the economic and marketing aspects of farmer cooperatives under the Agricultural Marketing Act of 1946 (7 U.S.C. 1621-1627).

Farmer Cooperative Service's fundamental purpose is to help farmers help themselves.

FCS conducts studies to support cooperatives that market farm products, purchase production supplies, and perform related business services. The Agency provides technical assistance and research to improve cooperative performance.

Technical assistance is given on organizing new cooperatives, merits of merging cooperatives, changing business structure, and developing strategies for growth.

Applied research is conducted to give farmers relevant and expert assistance pertaining to their cooperatives. Studies concentrate on financial, organizational, legal, social, and economic aspects of cooperative activity in U. S. agriculture.

FCS efforts center on providing rapid response and leadership to help build more effective cooperative operations in the changing economic environment in which the family farmer operates.

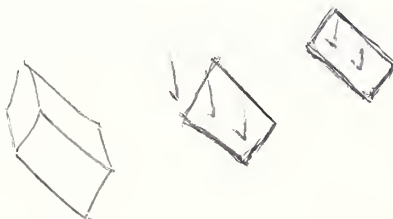
The Service is headquartered in Washington, D. C., and has no field offices.

Available Funds and Man-Years

1975 and Estimated, 1976 and 1977

Item	Actual		Estimated		Budget Estimate	
	1975		Available, 1976		1977	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Farmer Cooperative Service.....	\$2,428,000	78	\$2,559,000	84	\$2,594,000	84
Other Federal Funds.....	132,801	2	150,000	2	150,000	2
Non-Federal Funds.....	39,697	1	78,000	1	50,000	1
Total, Farmer Cooperative Service.....	2,600,498	81	2,787,000	87	2,794,000	87

End-of-Year Employment:	1975 <u>Actual</u>	1976 <u>Estimated</u>	1977 <u>Estimated</u>
Permanent full-time.....	87	81	81
Other.....	4	6	6
Total.....	<u>91</u>	<u>87</u>	<u>87</u>



FARMER COOPERATIVE SERVICE

7700
25
17
1000
2
3
New York

Appropriation Act, 1976.....	\$2,482,000
Budget Estimate, 1977.....	<u>2,594,000</u>
Increase in Appropriation.....	<u>+112,000</u>

Adjustments in 1976:

Appropriation Act, 1976.....	\$2,482,000	
1976 Supplemental Appropriation for		
pay costs.....	<u>+77,000</u>	
Adjusted base for 1977.....		2,559,000
Budget estimate, 1977.....		<u>2,594,000</u>
Increase over adjusted 1976.....		<u>+35,000</u>

SUMMARY OF INCREASES

(On basis of adjusted appropriation)

	<u>1976</u>	<u>Increases</u>	<u>1977</u> <u>Estimate</u>
GSA space rental costs.....	\$100,000	+\$5,000	\$105,000
Annualization of the pay cost increase			
effective in FY 1976.....	77,000	+30,000	107,000
All other.....	<u>2,382,000</u>	--	<u>2,382,000</u>
Total available.....	<u>2,559,000</u>	<u>+35,000</u>	<u>2,594,000</u>

PROJECT STATEMENT

(On basis of adjusted appropriation)

Project	1975	1976 (estimated)	Increase	1977 (estimated)
1. Research and technical assistance for agricultural cooperatives.....	\$2,394,191	\$2,559,000	+\$35,000 (1)	\$2,594,000
Unobligated balance.....	33,809	--	--	--
Total available or estimate.....	<u>2,428,000</u>	<u>2,559,000</u>	<u>35,000</u>	<u>2,594,000</u>
Proposed Supplemental for pay increase costs.....	--	-77,000		
Total, appropriation.....	<u>2,428,000</u>	<u>2,482,000</u>		

EXPLANATION OF PROGRAM

Farmer Cooperative Service conducts studies relating to cooperatives engaged in the marketing of farm products, purchasing of production supplies and supplying related business services. The Agency program is directed toward providing technical assistance to cooperatives and research to improve cooperative performance.

Technical assistance is provided in response to problems that may come to FCS from farmers directly or through the management of boards of directors of cooperatives composed of hundreds and in some instances thousands of farmers. Help is given on the formation of new cooperatives, the merits of merging cooperative organizations, changes in business organizations and future growth or development, and the development of more viable relationships between cooperatives and other businesses and institutions. The full range of organization and management problems confronting cooperatives is covered by the FCS technical assistance program.

Applied research is conducted to give farmers relevant and expert assistance pertaining to their cooperatives. Efforts are made to identify major adjustment problems facing cooperatives and assemble the research needed to address them. Studies concentrate on financial, organizational, legal, social, and economic aspects of cooperative activity.

Statistical data are collected to detect changes in structure, operations, and growth trends. Data help identify and support applied research and technical assistance activities.

The Agency serves as a central storehouse of data about farmer cooperatives in the United States. This information is communicated to the farmer or member through a variety of publications.

FCS efforts center on providing immediate response and leadership for more effective and efficient cooperative operations in the changing economic environment in which the family farmer operates.

In fiscal year 1977, FCS plans to adjust its resources to emphasize work on the following programs: (1) coordination in the pork industry, (2) developing competitive exchange systems for cooperatives, (3) cooperative policy, (4) cooperative finance, and (5) cooperative development.

Types of Projects:

Technical assistance studies in:

- Improving Organizational Structures and Marketing Systems
- Feasibility of Economic Integration
- Improving Cooperative Operations
- Using Cooperatives in Rural Development
- Educational Programs for Improving Cooperative Management

Research studies in:

- Identification of the Appropriate Role and Scope of Cooperative activity
- Member Education and Involvement
- Financing Cooperatives
- Impact of tax law changes on cooperatives
- Coordination in the Pork Industry
- Coordinated Transportation and Distribution System for Cooperatives
- Bargaining and Pricing by Cooperatives

JUSTIFICATION OF INCREASES

- (1) An increase of \$35,000 for research and technical assistance for agricultural cooperatives consisting of:

(a) An increase of \$30,000 for annualization of pay increases effective in FY 1976.

(b) An increase of \$5,000 for space rental costs pursuant to P. L. 92-313.

STATUS OF PROGRAM

Farm families use the cooperative form of business as extensions of their farm enterprises. Through cooperatives, farmers jointly purchase production supplies, process and market products, and obtain related services. By working together in cooperatives, farmers are able to reduce costs and obtain greater returns at the market place. Thus, they are able to provide Americans with the world's most plentiful, highest quality, and least costly food and fiber supplies.

Farmer Cooperative Service--through research and technical assistance programs--advises farmers, co-op officials, and other rural people on how to improve or expand existing cooperatives, and, when needed, to develop new cooperatives.

FCS is prepared to work with farmers who use the latest modern techniques and management skills, and with those with limited resource and management skills. The agency is prepared to commit one specialist or a substantial team to projects. It may conduct a project by itself or work with State and other Federal agencies, universities, or with one or a group of cooperatives. Because of its versatility and flexibility, FCS serves as the national focal point of activity involving farmer cooperatives.

Current Activities:

Interest in livestock marketing has been stimulated by recent events in the livestock industry such as the development of large-scale cattle feedlots, the decline in numbers of processing plants, and more recent economic losses by livestock producers as a result of high feed cost. During the past two years FCS has embarked on an extensive program to aid livestock producers. Educational materials have been developed to aid producers in determining what their future direction in livestock marketing should be, and research has been undertaken to develop either a centralized slaughter hog marketing system or an integrated pork production, marketing and distribution system. FCS has also worked closely with sheep and lamb producers in developing a number of telephone auction marketing systems, and has aided industry leaders in planning an overall centralized marketing system for that industry.

Cooperative development activities are those where the cooperative approach is used to help solve new or different economic problems. It includes both a change from existing ownership patterns to the cooperative form as well as formation of new cooperatives. A FCS grain export study recommended formation of a single coordinated grain export marketing cooperative to coordinate and control all cooperative grain export sales. FCS recently examined the potential for peach producers to finance and build a new cold storage, packing and shipping facility for fresh peaches near Campbell, Missouri. FCS is also working with Alabama broiler producers to evaluate the feasibility of establishing a broiler marketing cooperative to improve their return levels. A group of Mexican-American producers were aided to begin cooperative operations for coordinating production and marketing of vegetables in the lower Rio Grand Valley of Texas. North Carolina fishermen were assisted to establish the Sound and Sea Fisherman's Association, Inc. to process and market fresh fish and shrimp. FCS is conducting feasibility studies to help fishermen form marketing or supply cooperatives in Louisiana, Georgia and St. Croix (Virgin Islands). FCS is also providing technical assistance to Indian groups interested in cooperatives. A similar service is provided in the crafts area.

Higher farm input prices and regional shortages of such major farm inputs as fertilizer and petroleum have been a serious concern of farmers in recent years. In this regard, farmer cooperatives have played a major role in insuring availability of supplies and in keeping price increases to a minimum. FCS has played an active role in keeping various government agencies informed as to farmer needs and current situations. In addition, study efforts are exploring new ways in which

B

Terminal
Markets

S

Grain.
Inspection

small and medium sized farm supply and grain marketing cooperatives can better adjust to meet future producer needs in these areas. Ways are also being studied to better control insect and plant diseases through cooperative efforts by pest management programs with minimum chemical use. An educational program is being developed in cooperation with the Extension Service to insure that local cooperatives continue to respond to the farm input needs of its members.

Dairy cooperatives in the Northeast face major financial problems. As an extension of previous work with cooperatives serving the New York-New Jersey milk marketing area, FCS has expanded a program of intensive technical assistance to other major Northeast dairy cooperatives. The program will identify the major marketing problems of full service cooperatives and analyze the cost components of services performed for fluid milk processors with emphasis on milk assembly, farm-to-plant transportation, and supply balancing activities. The program will also analyze the impact of alternative marketing systems on Northeast cooperatives' financial strength and net returns to producers.

Rapidly increasing transportation costs and deteriorating service, particularly rail movements, is placing an added burden on cooperatives in assisting producers to serve a growing national and international market. Branch line abandonments and weight restrictions as well as equipment shortages require consideration of alternative programs for moving farm production supplies to rural areas and farm products to markets. FCS is studying potentials for pooling and coordinating the use of the estimated 10,000 rail cars now operated by cooperatives to better utilize such equipment and reduce costs. To offset the growing competitive disadvantage of the livestock and poultry industries in Oregon and Washington, FCS is studying alternative programs to reduce transportation costs and feed ingredients received from surplus Midwestern feed grain sources. To develop comprehensive solutions that will minimize costs incurred in transportation, inventory, repackaging and physical distribution of processed fruits and vegetables, FCS is studying a coordinated transportation and distribution system for cooperatives. The objective is to explore opportunities, through cooperatives working together and sharing common facilities and equipment, to optimize their physical distribution systems. The optimal system would include providing improved marketing services through faster more frequent deliveries which would reduce inventories, conserve energy and reduce costs through more efficient utilization of transportation equipment and warehousing facilities.

Cooperative directors are delegated authority for determining general operating policies and checking the performance of their association. It is important that directors have a clear comprehension of their role and responsibilities within the cooperative form of enterprise. Moreover, if cooperatives are to remain viable, their scale and complexity of operations must continue to increase. This calls for a concomitant substantial escalation in the responsibilities of their Boards of Directors. FCS has underway a program to improve the capability of cooperative directors. A nationwide survey to determine the roles, attitudes, and qualifications of Board members has been completed. How these characteristics differ by type, size, and geographical location will be ascertained. Through analysis of these data we shall provide basic qualification criteria that members can consider in selecting directors and in the initiation of training and development programs designed to increase their competency and effectiveness.

Bargaining and pricing.--Producers' increased dependence on the market for their prices and profits has renewed their interest in bargaining and pricing of their products and supplies. As a result, Farmer Cooperative Service is engaged in a wide range of projects in these areas. These include FCS studies exploring ways existing regional potato bargaining associations can better coordinate their activities to combat interregional processing firms and the use of centralized exchange systems to foster competition among livestock slaughterers. FCS is encouraging studies of improved producer pooling and pricing arrangements and

studies of contracting arrangements and pricing mechanisms through cooperative research agreements. Also, various FCS researchers are cooperating in a project to develop a series of educational papers dealing with alternative ways farmers may market their products.

<u>Research and Technical Assistance for Agricultural Cooperatives:</u>	<u>District of Columbia</u>	
	<u>Obligations</u>	<u>Man-years</u>
1975 Actual.....	\$2,433,888	79
1976 Estimate.....	2,637,000	92
TQ Estimate.....	660,000	23
1977 Estimate.....	2,644,000	85

